

Surgery *made easy*

SURGERY

Rt. lobe

Liver

Lt. lobe

Gall Bladder

GIT

Thyroid

Stomach

Small Bowel

Large Intestine

Suprarenal gland

Pelvis and Ureter

Kidney

DR. MOHAMMED EL-MATARY

Investigations of the Breast

A. Radiological

Mammography

- Also considered as a primary tool in breast cancer diagnosis (mammography is primary tool)

Ultrasound

- Diff. between solid & cystic swelling.
- **Benign Cysts**
 - Smooth walls
 - Clear fluid
 - no rapid swelling
 - no resid. mass after Asp.
 - no malign. cells

FRI

- gold stand. for Synthetic Prostheses
- Diff. Scar from Recurrence
- many. axilla in 4 Breast

Galactography

- nipple discharges
- smooth filling defect = benign papilloma
- irreg. filling defect = ulcer or f.
- = Lactogram

For Staging

- Bone Scan
- CT
- X-ray
- Sentinel LN study

Thermography

- Not specific
- +ve = Inflammation

Non-Radiog.

- more acc. than Mammog.

→ to detect early stage

Technique

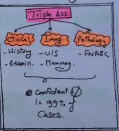
- Lateral
- Craniocaudal Films

Indications

- Screening for high risk
- Defect palpable 4 Breast
- Evaluate other Breast
- Search for occult Breast f.
- Unusual breast Pain

Findings suggestive of malignancy

- micro calcifications
- Swelling larger than surroundings
- Star-Shaped mass



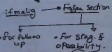
B. Instrumental

Discharge

- Barlow
- Galactography
- Cytology
- Pre-op.

Mass

- mammography
- US
- FNAB



FNAB

- very accurate
- Simple, inexp.
- (pleasing pt) (minimised risk to pt)
- out-patient procedure

Core Cut Biopsy

- under Local Anesth.
- tissue integrity & cell structure

Open Biopsy

- Excisional
- Incisional
- 3 Specimen
- Frozen Section
- Paraffin

C. Laboratory

Hormonal Rs.

- Estrogen Rs.
- Progester. Rs.

Tumor Markers

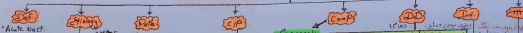
- CEA
- CA15-3

Cytology of Discharge

Pre-op.

- CBC
- LFTs
- KFTs
- FBs

Acute Lact. mastitis & Breast Abscess



Infectious
 "Acute bact. inf. of the breast which occurs during lactation."
 Milk Eng. → Acute Mastitis
 Multilocular Abscess

Caus. org.
 Staph aureus (coagulase +ve).

Routes of inf.
 - Direct spread (main routes)
 - Blood spread

Path. chgs.
 - milk eng.
 - nipple cracks
 - Red nipple (flow)
 - Red nipple (flow)
 - Swelling of glandular tissue

Stage of Milk Eng.
 - S/S:
 - Swelling pain, mild pyrexia.
 - S/S:
 - enlarg. glandular tissue of breast.
 - (tender, elastic)

Stage of Abscess
 - S/S:
 - Pain worsens
 - high pyrexia, severe
 - Swelling, erythematous
 - Diff. redness, hot, tender.
 - L.H. → tender, elastic.

Stage of Abscess
 - S/S:
 - Thrilling pain (red)
 - Swelling
 - S/S:
 - Hotness, fever
 - edema of overlying skin
 - fluctuation (clear)
 - (tender, elastic)

Stage of Chronic Abscess
 - TLC
 - ESR
 - CRP

	Acute Lact. Mast.	Post-Operational
Symptoms:		
1. General	Fever, chills, malaise	Anorexia, fatigue of breast
2. Local	Pain of acute onset & rapid progress	Pain of gradual onset & slowly progressing
Signs:		
1. General	Hyperthermia	Leukocytosis
2. Local		
Signs of inf.	+ve	-ve
Antib. & L.H.	Enlarged, tender, firm, mobile	Enlarged not tender, hard, fixed

C&S
 - to exclude mastitis
 - to exclude mastitis
 - to exclude mastitis

U/S
 - detect maturity of abscess & its location
 - detect maturity of abscess & its location
 - detect maturity of abscess & its location

Prevention
 - During last days of preg
 - massage nipple & gland hygiene
 - After delivery:
 - Clean nipple
 - if nipple is fissured → antiseptic cream
 - milk eng. → Pump evacuation

General Measures

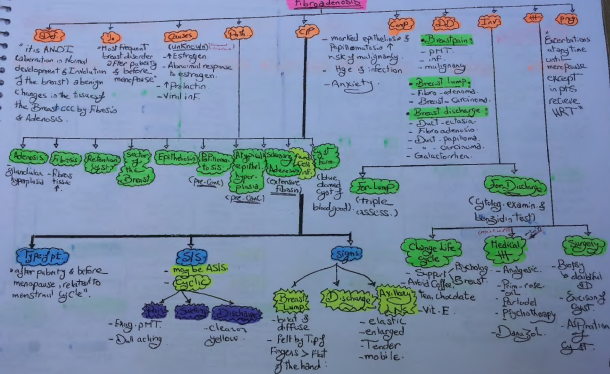
- Stop lact. from aff. side.
- Lactate to other breast.
- Evacuate dis. breast (induc. pump)
- Warning: patient is not to be given milk
- If patient is not able to pump milk daily should suck out the milk

Medical

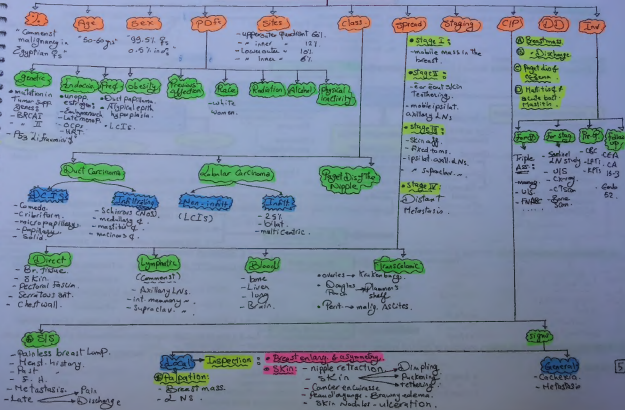
- Antibiotics (anti-staph)
- Analgesics
- Anti-pyretics
- Not fomentation

Surgical

- Incision
- Destroy loculi
- ABS
- Drainage
- Drainage



Breast Cancer



Treatment of early cancer breast

1. **Cancer breast:** is now widely accepted to be a systemic disease, once it is evident clinically, it metastasizes in the form of micro-metastasis

2. **Definition:** Early cancer is considered to be • Stage I or II (Manchester staging)

• T₁N₀M₀ or less (international TNM classification)

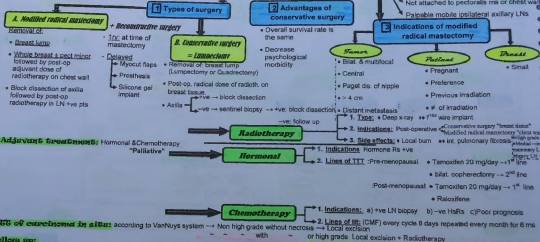
- T₁: tumor 2 - 5 cm

- N₀: Mobile ipsilateral axillary LN

- M₀: No evidence of distant metastasis

3. **Aim:** I want to cure my patient

4. **Primary treatments:** Surgery ± Radiotherapy (Local treatment)



5. **Adjuvant treatments:** Hormonal & Chemotherapy "Palliative"

6. **Use of endocrine in situ:** according to VanNuys system → Non high grade without necrosis → Local excision
or high grade Local excision + Radiotherapy

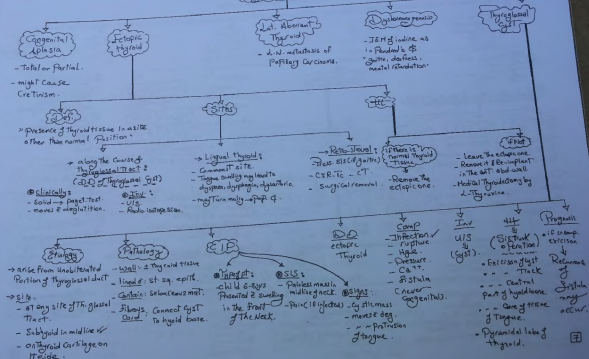
7. **Follow up:**

- Every 3 ms for first 2 yrs
- - 4 ms - next 2 yrs
- Yearly for life

For

- Local recurrence
- Distant metastasis
- Carcinoma of the other breast
- Complications of the operation

Congenital Anomalies



Investigations of Thyroid gland

For Diagnosis

For Function

Pre-operative

Laboratory (Thyroid Function tests):

Total T₃/T₄

• Normal values:
- T₃: 80-180 ng/dl
- T₄: 4.6-12 "

Free T₃/T₄

• Normal values:
- T₃: 230-410 pg/dl
- T₄: 0.7-1.9 ng/dl

Serum TSH

- ↑ in 1st hypothy.
- Only detection of hypothyroidism.

TRH Test

- measure of TRH before & after administ.
- normally → ↑ TSH.
- hyperthyroid → no rise in TSH.

TSH

Normal

++

- high Normal - mild thyrotoxicosis.
- T₃-T₄

• Disadvantages:
- affected by changes in thyroxin binding globulin (TBG).

• Advantages:
- most acc. Ind. of thyroid functions.

USG Neck

- most Sens. Inv. of thyroid Nodule.
- Diff. Cystic from solid swelling.
- For Cystic nodule → Aspiration (beign cyst)
→ Smooth wall, clear fluid, complete collapse.
→ Cytology: normal cells

FNABC

- fine Needle Aspiration biopsy & cytology.
- Can't diff. follicular adenoma & c.
- high Sens. in diagnosis of papillary carcinoma.

For Morphology

For function & Morphology

Thyroid Scan

- radioactive iodine: I¹³¹, I¹²⁵, I¹²³, I¹²⁴ or Tc^{99m} (cheap & cheap).
- Dose: 10-15 micro Curie.
- Estimate uptake at 4, 24 & 48 hrs.

- Values:

• Diff. between:

• Hot nodules → ↑ uptake "thyrotoxicosis".
• warm = no Normal.
• Cold = no ↑ uptake
- malignant nodule (20%)
- SNG
- cyst

• Diff. Graves from Toxic multi-Nod. goitre.

• Detects retro. Sternal extension.

• Detects ectopic thyroid tissue.

• Diff. hashitoxicosis from 1st Thyroto.

A Laboratory:

1 CBC:

• RBCs → Anemia.
• WBCs → Agranulocytosis.

2 FBS:

• Thyroxin in Diabetic.

3 KFTs.

4 LFTs.

B Radiological:

• CX-ray:

1 RSG

2 Stalked Trachea.

3 Ca⁺⁺

4 metastasis.

C Instrumental:

→ Indirect laryngoscope.
• Medico-legal imp.
• Vocal cord paralysis.

→ ECG:

- arrhythmia.

→ Bronchoscope.

→ Esophagoscope.

Gonitre 'enlargement of thyroid gland'

Congenital Gonitre
'Boitrous cretinism'

- **Diffuse:**
 - Endemic.
 - Psychological.
 - Sporadic.
 - Gland.

Simple Gonitre

- **Nodular:**
SNGs.

TENL Gonitre

- eg Toxic gonitre.
- " "
- Toxic Nodule.
- **Race Cause**
→ Thyroiditis follicular...
→ Jn-based...
→ Jn-based...

Inflammatory

- Acute Infect. Thyroiditis.
- Subacute " "
- Chronic " "
- Autoimmune " "
- Riedel's dis.

Neoplastic

- **Benign adenoma**
Follicular Adenoma, Follicular Adenoma
- **Malignant gonitre.**

Simple Nodular Gonitre

Incidence

- Commonest dis. of thyroid gland.
- ♀ > ♂
- 20-30 yrs old.

Etiology

- Repeated Fluctuation of TSH levels due to repeated cycles of stress.

CIP

Pressure
weight → neck swelling
bulky → neck swelling
long → Trachea malark.

Signs & Symptoms

Comp

Inv

HT

Type of

♀ 20-30 yrs
E nodular swelling in the front of Neck.

SIS

- Cosmetic deformity.
- **Pressure SIS:**
 - Trachea → dyspnea.
 - esophagus → dysphagia.
 - Carotid → distension.
 - I JV → blackout.
 - RLN → change of voice.
- **Pain:**
 - dark
 - eye.

General

"No Thyroid SIS"

InsP:
- Nodular swelling
- more up & down & deg.

Local

Pain:
- Th. swelling & firm.
- Trachea → displaced.
- Carotid.
- Puff.

Signs

- T₃, T₄, TSH
- U/S
- FNABC

Comp

- Thyroidism.
- X-ray.

Pre-OP

- CBC, KFTs
- IFTs, PEs
- indirect laryngoscopy (mediastinoscopy)

HT & SNG

- Partial thyroidectomy
- Total " + replacement therapy.
- Alcohol Injection into the Nodules.

HT & Comp

- 2/3 Toxic gonitre...
- 1/4 Malignant...
- 1/4 HT...
- Retro-sternal extension...

Treatment of Grave's disease "Primary thyrotoxicosis"

1. Medical ttt: (main line) = given until spontaneous remission occurs known by drop of TSI level, ((for maximum 1.5 yrs duration))
- Neomercazole (Carbimazole)
 - Action** → inhibit peroxidase and iodine binding tyrosine
 - Dose** → 10 mg (2 tablets) 3 x daily (max 60 mg/d) 5 mg 3x daily for 12 - 18 ms
 - Complications** → agranulocytosis & hepatotoxicity
 - β - blockers (propranolol)
 - Action** → used with neomercazole to protect the heart for 2 wks till the patient becomes euthyroid
 - Dose** → 80 - 160 mg/d
- Ⓜ N.b.: Propylthiouracil: used during pregnancy as it crosses placenta to less extent (50 mg 2x3 two tablets / 8 hrs)

Failure of spontaneous remission with medical ttt (within 1.5 yrs)

According to age

Young age

2 Surgery

- Indicated in:** failure of medical ttt, RSG, huge sized goiter.
- Type:** Subtotal thyroidectomy after preparation "Neomercazole + iodral"

Old age

3 Radioactive Iodine

- Indicated in:** old pt > 45 yrs
- Type:** I^{131} (10 millicuri)
- Complications:** Myxedema

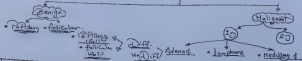
4 Toxic goiter in pregnancy:

- Medical M** → Antithyroid drugs (propylthiouracil) + β blockers "In 3rd trimester we add small dose of L-thyroxine to suppress maternal TSH & TRH to avoid thiouracil goiter"
- Surgery** → if indicated better to be performed in 2nd trimester.
- Radioactive Iodine** → is contraindicated, because it is teratogenic & will destroy fetal thyroid

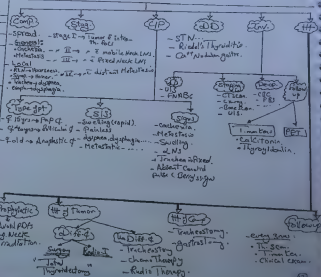
5 TTT of Exophthalmos:

- Medical M**
 - Protection of the eye by day → eye drops & by night → ointment.
 - Dehydrating measures.
 - High doses of prednisolone.
- Surgical M**
 - Lateral tarsorrhaphy.
 - Orbital deroofing (Naffziger operation)

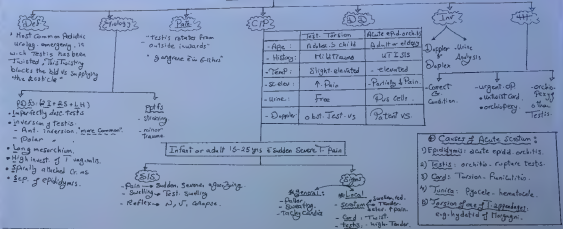
Thyroid Neoplasm Classification



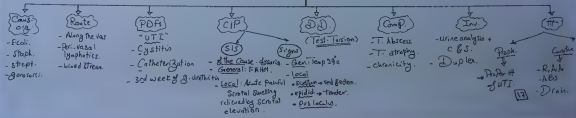
Prevalence	PA-Pillay Carcinoma 6%	Follicular Carcinoma 19%	Anaplastic Carcinoma 1%
Age	child, young adult	Middle age	elderly
Sex (F:M)	3:5:1	2:1	1:1:3
Pathology	- Ext. invad. - Papillary adenoma - Gradual \$	- SNG - Follicular adenoma	- De-novo
Macro	- Grey - Multicentric	- Brown - Unicentric	- Grey - Unicentric
Micro	- Malign. Epithel. - 5-10% of cells & malignant cells. - Benign nuclei	- Follicles & variable deg. of deg. - V.S. invasion.	- Spindle cells. - Chemos. deg. - Fibrous tissue.
Spread	Lymphatic	blood (SKull).	Direct
ISH	Depend.	less dep.	Not dep.
Prognosis	Good	Bad	V. Bad.
5 yrs survival	90%	- Encaps. → 97% - Invasive → 70%	2% ie in 1-2 yrs.



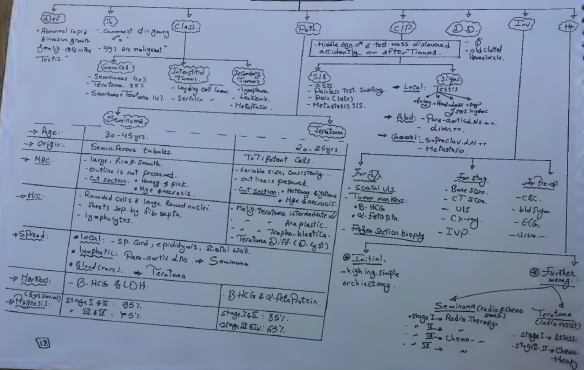
Torsion of Testis (no torsion on top of epid. testis)



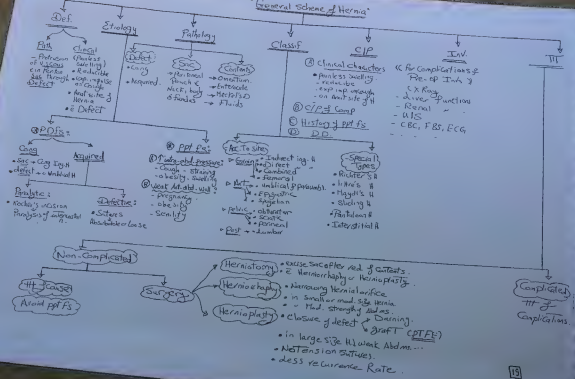
Acute Epididymo-orchitis



Testicular Neoplasm



"General scheme of Hernia"



Femoral Hernia

① **Def:** Pathological: Protrusion of viscus thru defect.
 clinical: - Reducible or Irreducible - exp. imp. on cough. - Anat. site of H. femoral region

② **Incidence:** - more on rt side. - 3rd common. - more in middle age fs.
 Rep. pregnancy wide pelvis. Small Femoral Vein.

③ **Etiology:** Cong. - Langdon's: through Girdle's lig. - Naquet: Pedunc. m. - Narkis's: any Hip dislocation.
 Acquired - intra-abd. pressure. - Weak ant. Abd wall

④ **Pathology:** Defect - through Femoral ring.
 Sac - Pass down in F. and then F. stretching cribriform fascia thru up & out.

→ **Contents**
 → **Coverings:** F. sheath, cribr. fascia, S.C. fat, skin.

⑤ **C/P:** → Swelling - C/P of ppt fs. - Complications - Irreducibility - Strangulation.

⑥ **Comp.** - Irreducibility - Strangulation.

⑦ **Inv.** -

⑧ **##** - Prophylaxis: avoid ppt fs. POFs. - H of ppt fs - Surgery: - low approach - approx. 100 pedicled lig. to iliopect. fossa. - Ing. - Prolonged.

Epigastric Hernia. "Fatty Hernia of Linea Alba"

① **Def:** - protrusion of extra P. fat through defect in supraumbilical part of L. Alba.

② **Components:** **Gac:** small & narrow neck.
Gutts: G. omentum.
Coverings: S.C. tissue & skin.

③ **C/P:** **Swelling** - Reducible. - Exp. imp. on cough. - Anat. site. - Sep. from umbilicus by interval.

④ **Comp.** -

⑤ **Inv.** -

⑥ **##** - prophylaxis: Avoid POFs. - Curative: - H of POFs, ppt fs - Surgical repair - Mayo's repair. - Anatomical. - Mesh.

Hernia of L. Alba

- Umbilical.
 - Para-
 - Fatty Hernia.
 - Epig. ~

Incisional Hernia

(Acquired - Man Made - ventral Hernia)

① **Def:** H. at site of previous abd. incision.

② **Etiology:** -

③ **Pre-operative:** - weak abd. m. - obese lit. - chronic cough, constip. - Bph. debilit. dis.

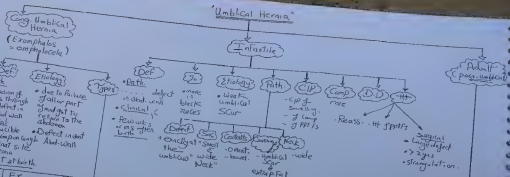
④ **operative:** - Excess Tissue and Hemostasis. - too loose. - tight. - ventral/extra m. - Hs cut > Hs split.

⑤ **Post-op:** - wound inf. - only return of work. - H Factor - defective, paralytic.

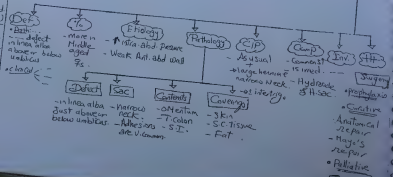
⑥ **C/P:** - General. - Anemia - change BPH - Local - Scar - Hernia - C/P Comp.

⑦ **Comp.** - - **Inv.** -

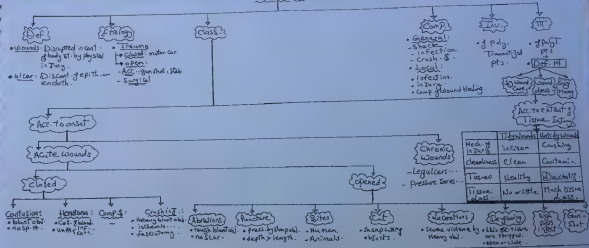
⑧ **##** - Prophylaxis - avoid ppt fs. - non-dis. - Curative - Anal. repair. - Prolonged. - Comp.



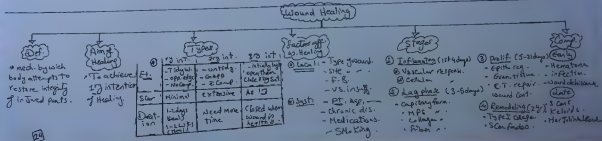
	Ex. minor	Ex. major
Defect	Small < 5cm in center of Abd. (constricting band)	Large > 5cm in center of Abd. (constricting band)
Sac	Small	Large
Contents	S.I. or duodenum	S.I. & I.
Covering	Wharton's Jelly & Layer of Amn. Membr.	only Layer of Amn. Membr.
Comp. C.	Loop of intestine can be entangled in lig. fund. stamp	Rupture - Peritonitis
HH	Contents are reduced, Sac is excised, Defect repair	Contents of Synthetic Mesh (H) definitive repair



¹⁰പ്രിയങ്കർ

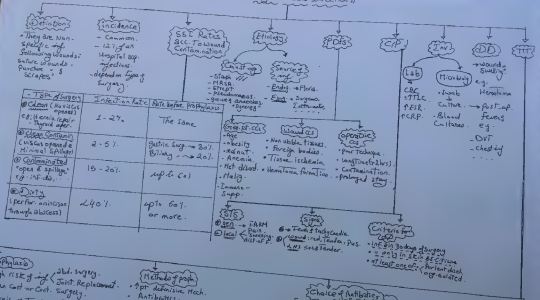


	Tidy world	Untidy world
Health in 2025	inaction	Coughing
cleanliness	Clean	Contamin.
Trees	Healthy	Drought
Waste class	No waste	Much waste



Surgical Site Infection "SSI"

→ (Surgical wound Infection)



Prophylaxis

- High risk of inf. (ab. surgery)
- Clean cut or Cont. Surgery
- Foreign material implanted

Method of proph.

- Antibiotic
- Antifolate
- Antifolate

Choice of Antibiotic for prophylaxis

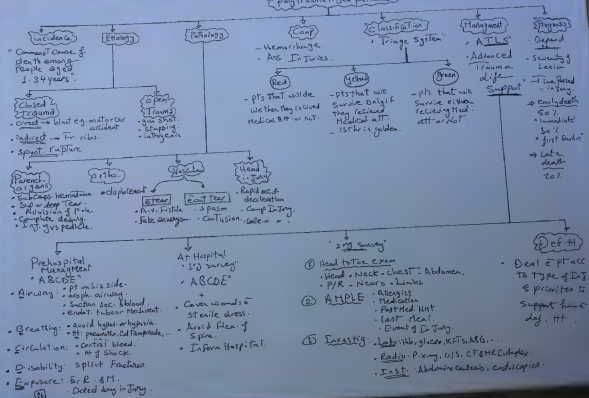
- Empirical
- Single IV shot
- Repeat only in
- Continue if Cont. occurs
- Ph. not protect ag. Bacteremia

Liberal dose

Active

- ABs act. to C & S.

Surgical Trauma polytraumatized patients



Definition:

Etiology:

- Causative org:
- Predisposing factors:

Route of infection:

Pathology:

ICP:

- Incubation Period:

S/S:

- General:
- Local:

Signs:

- General:
- Local:

Comp:

DD:

Inx:

III:

Prophylactic:

Curative

Tetanus

- Acute specific inf. leading to ↑ nervous excitability due to release of neurotoxin.

Clin. Tetan.

- Onset - Anamnestic, local, spore forming
- Purg. content & cont. wounds, fields, streets, ...
- ↓ O₂ content - Deep lac. - High shock - Comp. & 30%
- Wounds esp ...
- Post-operative - T. Nervosum - Inf umbilical stump

- Neurotoxin → Anti-cholinergic (Anamnestic infections usually do not spread by blood)
Ext. excit. of motor neurons → Convulsions

- Time bet. wound & app. of 1st S/S variable up to yrs.

FAMH, pt. alert, mild fever, headache, anorexia, rapid pulse, pain, swelling, convulsions.

- ① Stages of toxic cont. - Trismus, risus sardonicus, opisthotonus
- ② = clonic = Dysphagia, = Dyspnea & Stridor.
- Wound: red, hot, tender.

- Exhaustion - Hypopyrexia - Asphyxia - Resp F, HF

- ① Carbolic acid - Strychnine poisoning - Hydrophobia in Rabies.
- ② Tonic cont. - Tetany - Meningitis.

- ABGs, organ PAAB, CBC, CSF, Smears

- ① Wound: incise skin - open deep fascia - debride - wash w/ H₂O if < 4 hrs - occlude & antisept. if > 4 hrs - leave it open
- ② Gen: sterile inst. & sutures.
- ③ SP: Immune proph. Tetanus - ATG in healthy wounds

- ④ General: Isolate pt in dark quiet room. - O₂ or Tracheostomy.

- ⑤ Specific: Anti tet. Ig (Closest of 1000 serum or 400 ATG)
- Penicillin.

- ⑥ Other: Valium, MS relaxants

Gas Gangrene

- Acute specific inf. leading to spread of gangrene & excess gas formation.

- Invasive spore forming bacilli - Clostridium (C. perfringens, C. septicum, C. histolyticum, C. botulinum, C. tetani)
- ↑ org content.
- ↓ O₂
- Wounds esp ...
- Endog. infection.

- do not spread by blood
- Local Corgs - Clostridium (C. perfringens, C. septicum, C. histolyticum, C. botulinum, C. tetani)

1-2 days

- FAMH, slight fever.
- Pain, swelling, Paralysis of affected organ

- ① Tachycardia (cardiac), = icteric jaundice, = MOF, = ARDS, = SIRS
- ② = shock

- Wound: = swelling = crepitus = foul odour = MS = black, = skin = black & foul fluid.

- Severe Toxicemia & MOF.
- ① Inf & gas forming org.
- ② Surgical emphysema

- TLC, Smear, CBS, P, X-ray, C & Met, Bileubin

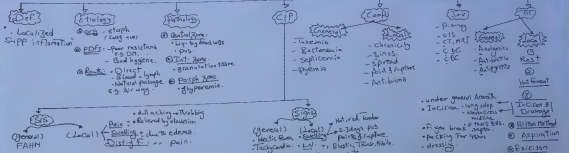
- Polyvalent gas gang. Serum loc. in 1-3 days.
- ABs: Penicillin G.

- ③ Gen: ... - Blood T. & IV fluids, Hypobaric O₂.

- ④ SP: Anti gas gang. Ig: 100 cc in 1-3 days.
- C. Penicillin 10 million i/day.

- ⑤ Botas: = massive gas = high amput. rate.
- localised - excise off MS.

Acute Abscess



Cellulitis Def: diff. Non supp. invasive inf. of SC tissue Etiology: Strep, Staph, E. coli, etc. CIP: - Tender, red, hot - Indefinite edge - Never off of ep. plane - L.N.s: Enl, Elast, Tender, Mobile Comp: - Chronicity - Pus Localized - Post abscess glomerula - Nephritis - Scalded face - SIRS Inv: CRC, CBS III: AAH rec + hot ferment Def: Penicillin - Erythromycin	Erysipelas Def: Non-supp. diff. sharply demarcated. strept. inf. of lymph vs. Etiology: Strep. CIP: - Tender, red, hot - Well defined edge - Confect can plane - L.N.s: - - - - - Comp: - - - - - Inv: CBS III: As Cellulitis isolation opt.	Boil/Pyoderma Def: Acute supp. inf. of hair follicles Etiology: Staph + Neco - Toxin Path: Hair areas, perifolliculitis CIP: - Hot, red, Tender - Ind. then soft Ten. - Pus points rupture - L.N.s: - - - Comp: As Gen. Cavernous Sinus thrombosis Inv: Blood 5-gen III: As Gen + i = pure Gram. - Penicillin Resist 483 - Flucanazole	Carbuncle Def: Acute supp. inf. of SC tissue Etiology: Staph Path: Hair, red, hot, 2-3 days pus points, rupture, L.N. = Swelling, Tender, Mobile, Fluct. is very late CIP: Multiple pustules on face Inv: FBS III: As Boil + i = pure Gram. - Penicillin Resist 483 - Flucanazole	Neck/MS/Furcitis Def: Staph Etiology: Staph Path: Hair, red, hot, 2-3 days pus points, rupture, L.N. = Swelling, Tender, Mobile, Fluct. is very late CIP: FBS Inv: FBS III: As Boil + i = pure Gram. - Penicillin Resist 483 - Flucanazole
---	---	--	--	---

Etiology

-

Local → Dis "detaching"
↓
Surfing "surfing"
DIST OFF "Distant Move."
→ From: From TechLand
local, but...

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local: hot, red, Terebinth,
Gubery on darts of
Hemol, Lins. ...



- Gen - T + Genia, ...
- Local - Acc. to Type of infection

- Murray
- Global Survey

Refers to:

- General: AAA.

1. - Was ist falsch?

- Arm position (Major Def)
 - Elevated

$\rightarrow$ Partition of $(\text{NO}_2)_2$

Res. is expected
Res. is expected

"Step 1: Collect"



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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↓
After Supp

Incision & Drainage

oder in A.

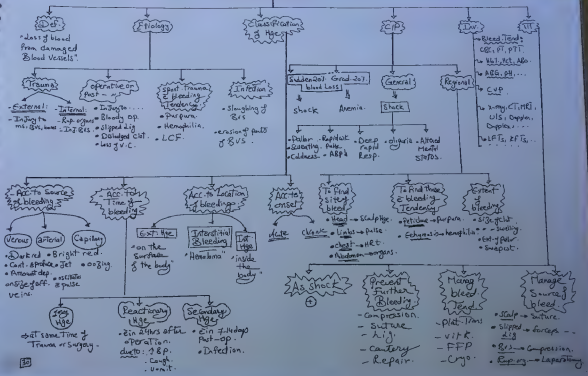
College Field

Abstract

Living by

	Acute Bonygia	PIP space	Interphalangeal of middle 5	Ulnar Bonyth.	Radial Bonyth.	Web space	Thener space	Sup. mid. PIP space	Deep mid. PIP space
Def. 'inf. g'	Thene Swelling nail bed	IC Comp. of phalanx (distal)							
Pathology CP.	organism: Staph, strept, S. aureus, local, most indicated osteomyelitis	Staph, strept, S. aureus, local, most indicated osteomyelitis	Staph, strept, S. aureus, local, most indicated osteomyelitis	Staph, strept, S. aureus, local, most indicated osteomyelitis	Staph, strept, S. aureus, local, most indicated osteomyelitis	Staph, strept, S. aureus, local, most indicated osteomyelitis	Staph, strept, S. aureus, local, most indicated osteomyelitis	Staph, strept, S. aureus, local, most indicated osteomyelitis	Staph, strept, S. aureus, local, most indicated osteomyelitis
CP	Takenia, Bacteremia, Limbation of movement	Takenia, Bacteremia, Limbation of movement	Takenia, Bacteremia, Limbation of movement	Takenia, Bacteremia, Limbation of movement	Takenia, Bacteremia, Limbation of movement	Takenia, Bacteremia, Limbation of movement	Takenia, Bacteremia, Limbation of movement	Takenia, Bacteremia, Limbation of movement	Takenia, Bacteremia, Limbation of movement
Inf.	1- Ray IF	1- Ray IF	1- Ray IF	1- Ray IF	1- Ray IF	1- Ray IF	1- Ray IF	1- Ray IF	1- Ray IF
III:	3A+ 1107	3A+ 1107	3A+ 1107	3A+ 1107	3A+ 1107	3A+ 1107	3A+ 1107	3A+ 1107	3A+ 1107
CP	Don't wait for fluctuation	Don't wait for fluctuation	Don't wait for fluctuation	Don't wait for fluctuation	Don't wait for fluctuation	Don't wait for fluctuation	Don't wait for fluctuation	Don't wait for fluctuation	Don't wait for fluctuation
Specific incision	- oblique - C shaped - outlay nail extraction	- AP phalanx - Tourniquet - Anterior at distal 2/3 - Sequential if joint space	- Transverse incision over Guide bar along radial border of hypharomycinase Co. ureteric catheter Co. irrig. by Penicillin	- Along ulnar border of Thener eminence stop proximal 1/5 " - Ulnar branch of Median Nerve	- Transverse incision over web space from free margin	- Curved incision along 1st web space	- Transverse incision over the 1st line of crease	- Transverse incision over the 1st line of crease	- Transverse incision over the 1st line of crease

Hemorrhage



- state of peripheral circulating failure
imp. tissue perfusion, dist. cell metab.

- Pathologic Shock

Practical = 20% of sudden blood loss or shift from peripheral circulation

Septic Shock
- severe blood & fluid loss in HPT can't pump enough blood to body.
- whole blood loss & HgC < 10
- plasma loss & burn, Peritonitis.
- Urine & sweat = U, O, Int. dist.

Pathophysiology
① **Initial stage**: - fluid, tissue perf. → Cell hypoxia → anaerobic met.
- Met. acidosis → Lactic & pyruvic acid
② **Compensatory stage**: - Reflex: ↑ Symp. & ↓ Para Symp.
- Hormonal: - Catecholamines.
- Glucagon, Thyroxine
- RAAS system.
- Biochemical: - erythropoietin - EPO activity

OP Shock: - Anxiety, Tilit, pale & skin, pale: Rapid weak.
- BP: low, TPR: low, Resp: deep rapid, oliguria.
- Cause: - site of blood, sign of Int. Hg, trauma, -
- Anemia, ARDs.

Lab:
- Blood: ABG, APO, Hb, ...
- Urine: CCG, U13, CT, -
- Cause: AGG, KFT, LFT, -
- Signs: Respiratory → ABCDE
- Hospital → ICU = R&H + Fluids + Crystalloids + Colloids + Blood.

- Maintain pulse, ABG, ASP, Temp, Uop, - CVP, Art line, Swan Ganz
- Pharma: Inotropics, Vasodilators, -
- IT of Cause & Comp.

Cardiogenic Shock:
- due to A.M. Inf. ...
- CIP as hypov. & Cong. failure of CVP.
- HI: O₂ of Cause

Neurogenic
- Symp. - Parasymp.
- High sp. d. - severe pain
- sp. cord Tra. - Circulation
- Brady Cardiac Warr... - Brady, Syncope
- Vasoconstrict & Fluids.
- Treadmill

Septic Shock

Def: - very severe Inf. → low BP & BD flow
- PDEF: - Paps, DM, Malig. Malact, ataxia, -
- OLS: 8m ...
- Signs: - Surgical → gastric ulcers, Biliary ...
- Resp. Syst. Meningitis.
- Inf. → chemical mediators "cytokines"

Pathophysiology: - Endotoxins → chemical mediators "cytokines"
- MOF: - MOF, - DIC - Neuro & Psych dist.
- Shock: - Warm shock (early) - Confusion
- Cold shock - Warm skin
- Cold skin - SBP < 90 mmHg
- Oliguria - Tachycardia
- MOF - PCOP

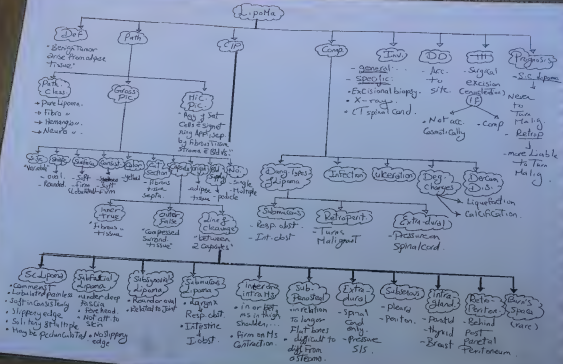
Criteria for:
- 2 or more blood culture
- Hyper. not Resp. to Resus.
- 2 others: - Hypotension: 720/min - Pulse < 52 - Hg
- UBC < 4000 cells/mm³ or 12000 cells/mm³

Inv:
- For Cause: - Culture
- X-ray, ...
- For Org. Cond: - CBC, KFTs, RFTs, LFTs -
- eradicate sepsis

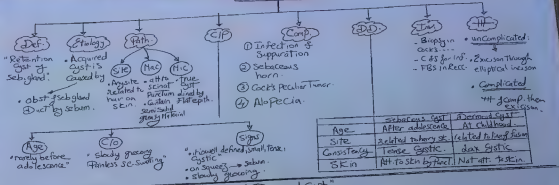
ICU:
- Circ-Monitor
- Support: - Circulating Fluids, Drugs.
- ResP: O₂, H. cont.
- Renal, DIC - FFP.

Pharmacologic:
- IgE reaction, B.S. - Adrenal Medulla &
- Cr. Crystalline - Cortical &
- Hydrocortison
- Anti hist & Endot. Tube.

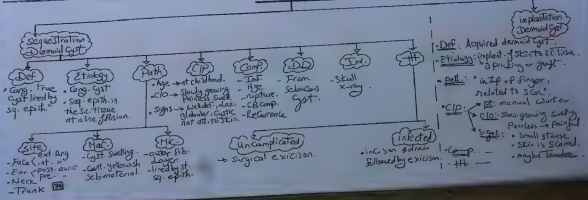
Endocrine:
- Adrenal Medulla &
- Cortical &
- S.V. IV + IV Hydrocort.
- Shock due to cap. tissue injury



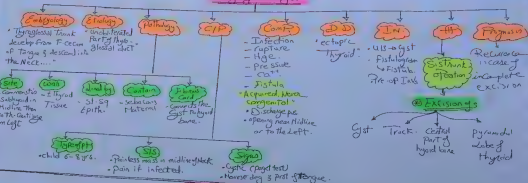
Sebacous Syst.



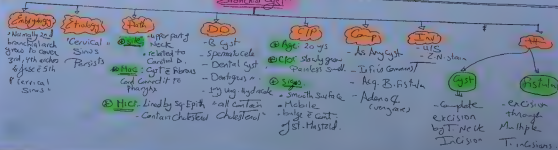
Dermoid Cyst



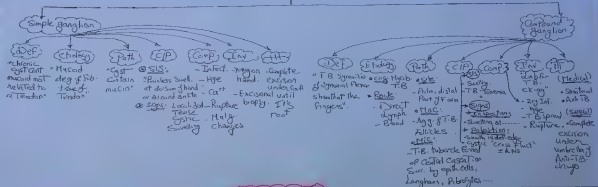
Thyroglossal Gist



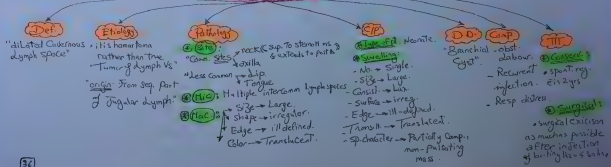
Branchial Gist



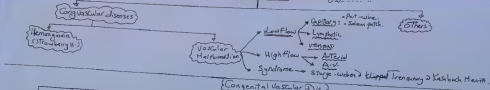
Ganglion



Cystic Aneurysm



Benign Tumors (pathology of N. Tumors)



Hemangioma "Strawberry H."

Def: Benign tumor of endothelial cells of capillaries.

X: Most common vasodilation.
- 70% at birth, 30% after 1st year of life.

Path: "Most common infantile".
- **Proif. phase:** 1st 3-6 months, Age: few mos.

Stagnant: No - - - - - JVS.
- **Inv:** - skin disapp. capill., - 5-7 yrs.

CIP: - eryth. raised patch.
- grow stagnating.
- Spont. regression.

Comp: **Fib** - Squirt - ulceration.
Eye - Amblyopia - Infection.
- Airway obstr.
- Bleeding.

Th: **Conservative:** is hidden area and deep.
Surgical: - **Comp.**
- Local corticosteroid.
- of Laser. (YAG Laser).
- Surgical excision.

Th of Comp: - - - - -

Congenital Vascular Dis.

Vascular malformation

"Half. VAS dev. in fetus" "2% &"

Portwine stain

Def: Capillary type.
CIP: - at birth
- deep purple.
- no spont. invol.
- Not regressive.

Comp: - psychological problems

Th: - **Conservative** ✓
- **Surgical:**
- Embolization.
- Corticost. Inj.

- Laser.
- Surgical excision

Salmon Patch

- Nearly 1/3 of babies have.
- pink, flat marks.
- on forehead, back of neck, Lip.
- Skin not thick.
- Covered by hair.

Venous Malif.

Def: Inter-comm. sinus (Vascular spaces)
I: Less comm. than **II:** Not comm. Arterial.

Sx: - **Def:** lip, tongue - **Pathology:**
- **Inv:** - liver. → **Sx:** (Sclp)
→ Mac. bluish cystic.
→ **Hic:** art. aneurysm.

CIP: - Since birth
- No spont. invol.
- Compressed like
- sign of emptying.

- Thrombolytic paper (in Liver)

Inv: - Arteriography
- CT-Scan

Th: - **Conservative**
- **Surgical**

Cerebral Anomaly

Def: Cong. dev. of brain.

Sx: - **Def:** (Sclp)
→ Mac. bluish cystic.
→ **Hic:** art. aneurysm.

CIP: - **Def:** (Sclp)
→ Mac. bluish cystic.
→ **Hic:** art. aneurysm.

Inv: - Arteriography
- CT-Scan

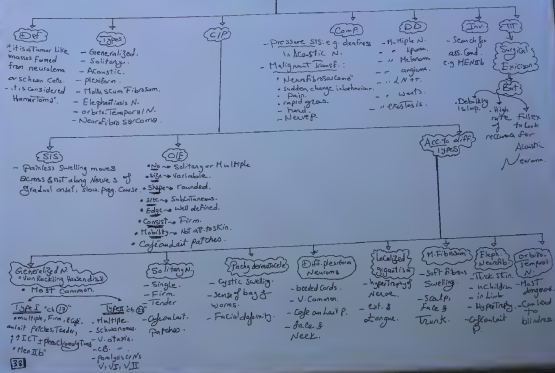
Th: - **Conservative**
- **Surgical**

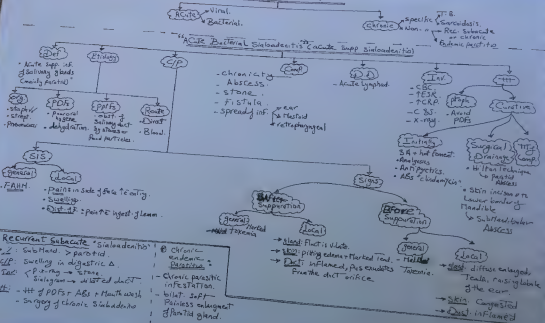
Comp: - Hypo. - Cereb. Def., ...
Inv: - Duplex - Duplex, Angioma

Th: - Surgical excision

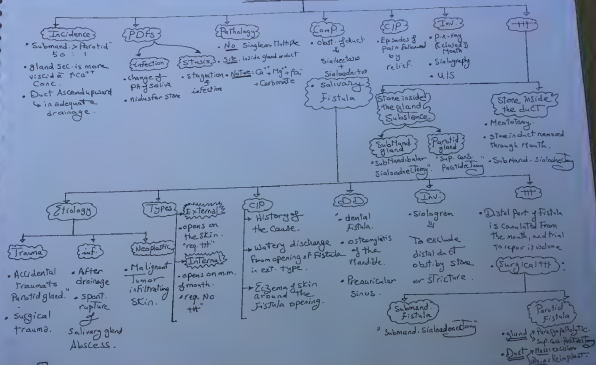
Emboliz. Laser excision

"Neurofibroma"





Salivary Stone (Sialolithiasis).



Salivary Neoplasms



Pleomorphic Adenoma

(Mixed Tumor)

- Incidence**
- Commonest
 - more in M
 - Parotid > Submand.

- Pathology** " Benign Tumors

- Site:** Sup. part of Parotid gland.
- Mac:** Firm, bossy, encapsulated. (Incomplete Capsule), Multicentric.
- Mic:** Mixed ~~cell~~ epith. arranged in sheets & duct like structures. **Matrix:** blue mucinous material (Pseudoepithelioid).

CIP:

- Sis:** Painless, slowly growing swelling in the side of face.
- Signs:** Well def., lobulated, freely mobile, elevating ear lobe, & No Cervical LN or Facial N. infiltration.

Comp:

- Disfigurement
- Malign. Transform.

Inv:

- CT & Scan, Tc99 Scan, Fine Needle biopsy.

TII:

- Benign Tumor in Parotid:**
 - Sup. Cns. Parotidectomy.
 - total - (Tumor in deep part).
- Benign Tumor in Submand. gland:**
 - Sub Mand. Sialoadenectomy
 - Take Care Not to injure
 - Hand. d. & Fascial
 - Long N.
 - Hydrog. N.

Monomorphic Adenoma

(Warthin's Tumor)

- Incidence**
- 10% of Parotid Tumors.
 - 10% bilat.

- Pathology** " pap. Epithelioma

- Site:** Sup. & lower part of Parotid.
- Mac:** Cystic encapsulated Benign Tumor.
- Mic:** Epith. lines spaces filled & creamy material & surrounded by Lymphoid tissue.

CIP:

- Sis:** > 50yrs & Painless slowly growing swelling in side of face.
- Signs:** as pleomorphic adenoma but cystic in front of tragus, Not elevating ear lobe.

Inv:

- Tc99 Scan - hot spot.
- CT Scan.

TII:

- Sup. Cns. Parotidectomy
- DD Swelling in Parotid Region**
 - Parotid: lipoma, Neurofibroma.
 - Mx: Raktal: Fibrosarcoma, Burkitt's lymph.
 - Precarcinoma LN +
 - Parotid gland
 - Inflammation.
 - Autoimmune tumors.

Malignant

- Phaeoepithelioid &
- Adenoid Cystic &
- Acinic cell &
- Adenoq.
- & ex pleomorphic adenoma
- Lymphoma

Malignant Neoplasms

- De Novo.
- antap of Mixed Tumor.

Pathology

- Mac:** Non encaps., E Hge & Necrosis
- Mic:**
 - Mucoepithelioid.
 - Adenoid Cystic.
 - Acinic cell.
 - Adenoq.
 - undifferentiated.
- Spread**
 - Direct: Mandible, Maxilla, Gasserian, Fascial, Lymphatic, Hyaline.
 - Lymph.
 - Parotid & Sub M. LNS
 - Blood

CIP:

- Sis:**
 - Pain
 - Swelling
 - Disfig.
- Signs:** Swelling = Firm & Tender, = ill def., Nodular LNS.

Comp:

- Ulcers, Inf., Hge, Nerve palsy.

Inv:

- For ID:** Tc99 Scan - cold spot, Biopsy - firm gland.
- For Stg:** CT, FNAB.

TII:

- operable** -> Parotid: Radical.
- Sub M.:** Comma. or Pericoma. + radiotherapy.
- Inoperable** -> Palliative resect + radiotherapy.

Anesthesia

Def:
Controlled & Reversible depression of the Normal Response of the whole or Part of body by chemical agents called Anesthetics.....

Types

General
"Gd. & Rev. dep. of the fund activity of CNS"

Regional
"Spinal or peripheral"

Local
"The local & Rev. dep. of fund activity of peripheral nerves by the Anesthetics"

The An. Assessment

- Pre An.:** DM, H₂ drug, ...
- Exam:** pulse, Bp, temp, heart, chest, resp
- Lab:** - Function test
- Urine
- FBS
- CBC
- CKMB
- ECG

The An. Medications

- Sedation:** eg. Barbiturates
- Analgia:** eg. Morphine, Fentanyl
- Relax. Agents:** eg. Succinylcholine, AChE
- General An.:** eg. Propofol, Etomidate
- Local An.:** eg. Lidocaine, Bupivacaine
- Anticholinergics:** eg. Atropine, Glycopyrronium

- Aspirin
- SSRI
- MAOI
- Contraception pills
- Anti epileptics
- MAOI
- Contraception pills
- Branching diators
- CC B₂, BB₁, antiarrhythmic
- Anti Coagulants

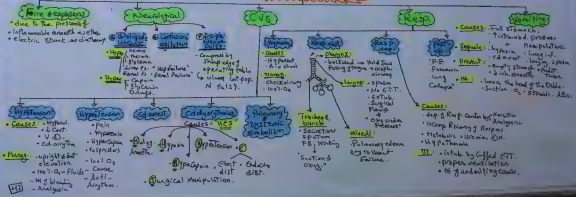
Medication stable & continued
Medication may be stopped

Compensation: Loss of Gd., Analgesia & Mx Relax.

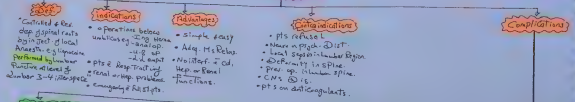
General Anesthesia

Phases: induction, maintenance & Recovery

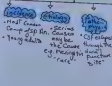
Hazards & Complications



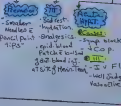
Spinal Anaesthesia (Anesthesia)



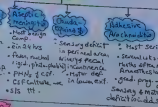
Postural Puncture Headache (PPH)



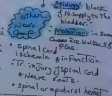
Cardio-Vascular Complications



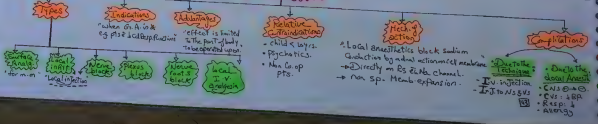
Neurological Complications



Urinary Retention



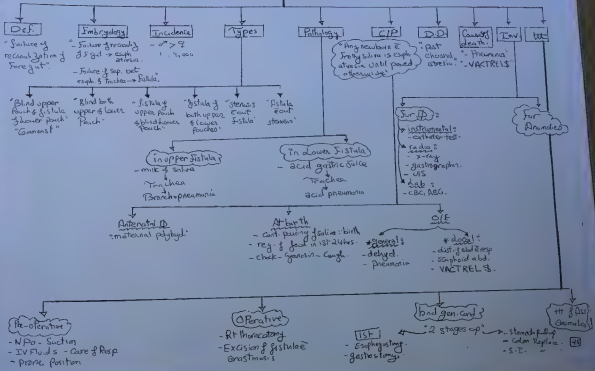
Regional Analgesia



Inhalation Anesthetics

	Halothane	Isoflurane	
<u>Properties</u> <u>CNS</u> <u>CNS</u> <u>Resp</u> <u>Miscellaneous</u> <u>Advantages</u> <u>Disadvantages</u>	• Potent Anesth... • Ind. 2-4%... • Maint. 2-6% (1.5% for Ind.) • Not analg. but may lower pain threshold. • Depression... • ↑ Cerebral Bl. Flow... • ↑ ICP • Hypot... • Dysrhythmias... • Vent. extrap. & V-tach... • V.F... • Resp depr. B.D... • No $\uparrow$ in sec... • ↓ post-pharynx & laryng. Reflex • Dose Dep. Relax. of SK & S.Mus... • ↓ RBF & GFR. • 75% halothane Met. in liver & excreted over many days. • potent anesthetic... • Rapid ind. & recovery... • Non irrit. to Resp. tract... • Does not $\uparrow$ secretions... • Agent of choice for inhalation induction. • ↑ CBF... • Dang. in pt. w/ hct ICP... • ↑ Malign. hypoxia... • Halothane hepatitis.	• Least soluble... • Ind. 0.5%... • Maint. 1-1.5% = 70% N_2O • Depression... • minimal effect on Cereb. Bl. Flow & ICP... • No excit. effect. • Hypot... • Tachycardia... • Cd Rhythm stable. • Vent. dep... • Minimal effect on Bronchial Sm. & Sec. • Good No relax... • Maintains Hepatic & Cereb. blood flow... • Min. Risk of hepatitis or renal failure from fluoride production. • Rapid Recovery... • Minimal hangover effects... • 1st agent of choice for Neurosurg. anaesthesia. • pregnancy limitio. • Worsen Myocardial ischemia... • expensive.	
<u>Dose</u> <u>Properties</u> <u>CNS effects</u> <u>CNS effect</u> <u>Resp effect</u> <u>Advantages</u> <u>Disadvantages</u>	Propofol 1.5 - 2.5 mg / kg I.V. • 1% solution... • Soluble in egg emulsion... • Non H_2O Soluble • Metab. in liver. • Sedation... • Loss of Consciousness • Anesthetic SIA... • Dec. Cerebral Met. & blood flow • Decreased ICP. • Hypotension Secondary to Vasodilatation. • Apnea... • Laryngeal reflex depression. • Best quality of recovery... • No $\leftarrow$ irrit. to veins. No allergic reaction. • Hypotension... • pain on In. Jctn... • expensive.	Ketamine 1-2 mg/kg IV & 5-10 mg/kg IM. • 10% solution... • 100% alcohol... • Metab. in liver. • Dissociative Anesthesia... • Analg. • ↑ ICP & CBF. • ↑ HR, BP, Co. • Minimal dep. of Ventil. • Easy stored... • IM... • Cds pts. • Has analg. effect. • Hallucinations • Not used in head inj. pts. • Exacerbate pre-exist. HT.	Sodium Thio-Pentone 5-7 mg/kg IV. • 10% sol. yellow powder. • Met. in liver & excreted in kidney • Sedation... • Loss of Consciousness • Anesth... • ↑ ICP... • Anti-convuls. • ↓ BP $\rightarrow$ • Hypotension... • Vasodilat. • Hypoxia... • Apnea... • Laryngeal spasm • cheap... • Rapid Ind... • good recovery... • Painless... • easily stored • Powder... • irrit. to tissues... • Resp. dep... • Circ. collapse... • Accidental intra-arterial injection $\rightarrow$ gangrene.

"Congenital Esophageal Atresia"



Diaphragmatic Hernia

Congenital

- Def.** - herniation of contents through cong. defect in the diaphragm.
- Inc.** - 1/1000
- Subtypes**
 - Septum - pleuro. - chest transverse memb. wall
- Types**

Hernia for. foramen of Bochdalek (Post. Hernia)

- Sites:**
 - Post. pleuro. for.
 - left & right (rare)
- Present:**
 - Asym. dist. abdomen
- Signs:**
 - Small abd.
 - dist. chest
 - low entry
- Comp.**
 - respir. dist.
- Comp.**
 - Comp. lung
 - strang. gut
- Inv.**
 - P. x-ray
 - gastrogr. meal
- Trt.**
 - pre-op. NGT
 - pre-op. High vent.
 - op. → Red. hernia & repair of diaph.

Hernia th. foramen of Morgagni (Ant. Hernia)

- Sites:**
 - Ant. median ant. opening
 - right side
- Present:**
 - Int. cost.
- Trt.**
 - Surgical

Evagination of Diaphragm

Cong. ParaEsoph. (Rolling) Hernia

- Path.**
 - True diaph.
 - No rotation of gastro. esoph. junction
 - to go. undisturbed
 - no reflux
- Types:**
 - Small → asile
 - Large → dysphagia, chest pain, hiccup
- Comp.**
 - rupture
 - strang. → Mesenteric
 - gangrene
- Inv.**
 - P. x-ray
 - Bar meal
- Trt.**
 - stomach retracted down
 - Hiatal sac excised
 - repairing hernial defect

Sliding H. Hernia

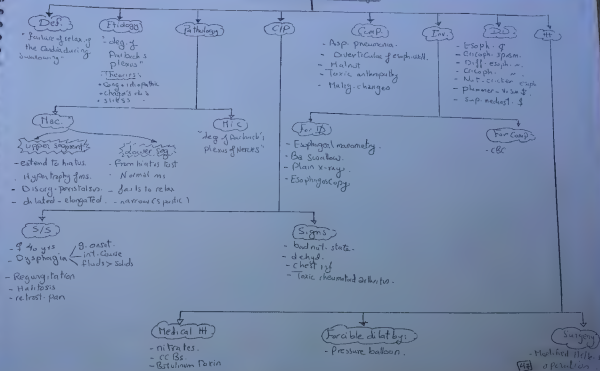
- Path.**
 - Gastro. esoph. junction is displaced into chest
 - reflux
- Signs:**
 - Chk R.D.
 - Comp.
 - Slant tread
- Comp.**
 - Asp. pneumonia
 - dysphagia
 - Barrett's esoph. → prec. structure
 - Bas. junction spread
 - Chk R.D.
- Inv.**
 - H. & H. Hernia
 - (style & drug)
 - H. & complications
 - H. & Slant tread

Acquired

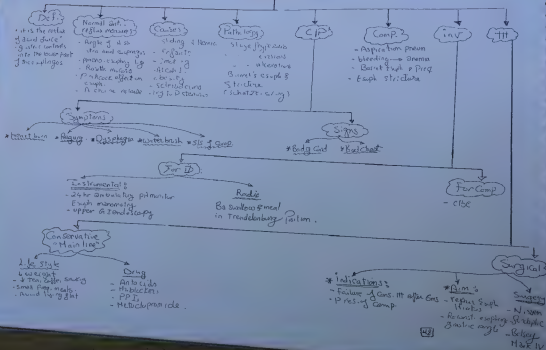
Traumatic Diaph. Hernia

- Sites:**
 - Left side
- Comp.**
 - Asphyxia & const. P
- Inv.**
 - P. x-ray
 - Bar meal follow through
- Trt.**
 - urgent Surgical Repair

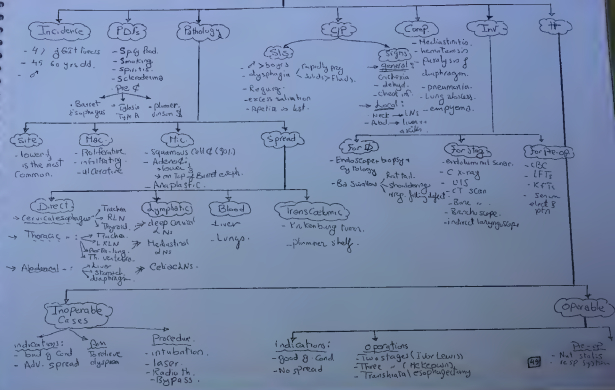
'Achalasia of the Esophagus'



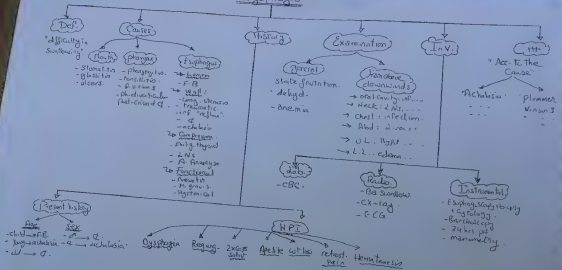
"Reflux Esophagitis" (GERD)



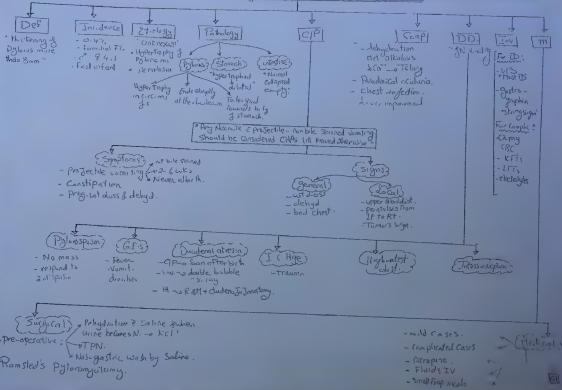
Esophageal Carcinoma



Dysphagia



Congenital Hypertrophic pyloric stenosis



Chronic peptic ulcer

Def

* Alteration of mucosa's defense
gms cant

Etiology

" due to disturb b/w
balance between
gastric acidity & mucosal
resistance

↑ Acidity

- blood pH ↓
- Stress
- ZES
- hyperparathyroidism
- stress of food

↓ Mucosa

- H. pylori
- Smoking
- Alcohol
- Spicy food
- NSAIDs
- Aspirin, gastric reflux, white chemical, gastric trauma
- vit B12 def
- ischemia

Pathology

	DU	GU
- No	single	single
- site	1st part of duodenum	pylorus
- size	small	- larger
- shape	- round	- saddle
- Edge	- sloping or punched out	
- Margin	- Serrated	
- Floor	- Granular	- fibrous white
- Base	- Indurated	
- Arteries	EAO	

CIP

- Perforation
- H. pylori
- Chronic
- Bleeding
- Pyloric stenosis
- gastric outlet obstruction
- Malignancy (only in GU)
- Recurrence

Comp

DD

- Peptic ulcer
- gastritis
- GI
- H. pylori
- water's
- food
- Dyspepsia

Inv

Type of pt

Symptoms

- Pain
- Vomiting
- Appetite
- wt
- H. pylori

Signs

DU

- 25-40 yrs
- blood pH ↓
- vit B12
- vit B12

- burning, stab, etc.
- 2-3 hrs after meal
- nocturnal
- relieve the pain by taking food
- by food
- relieved

GU

- 35-45 yrs
- blood pH ↓
- vit B12
- vit B12

- 1-2 hrs or immediately after meals
- epigastric
- by food
- by fasting & vomiting
- No periodicity
- very common
- (S. pylori)
- 1
- (H. pylori)

- Anemia
- pt can localize site of pain by one finger
- Tenderness

- Anemia
- pt can't
- Tenderness

Diagnosis

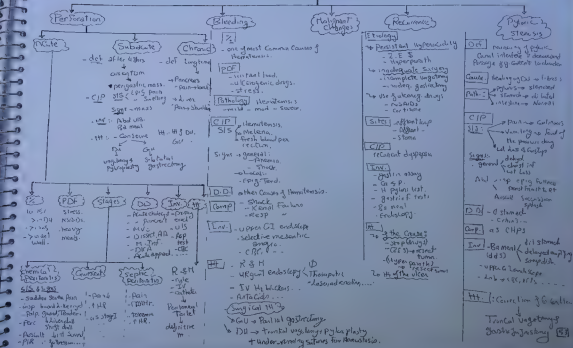
- upper GI endoscopy
- biopsy
- Ba meal
- CTR

For Comp

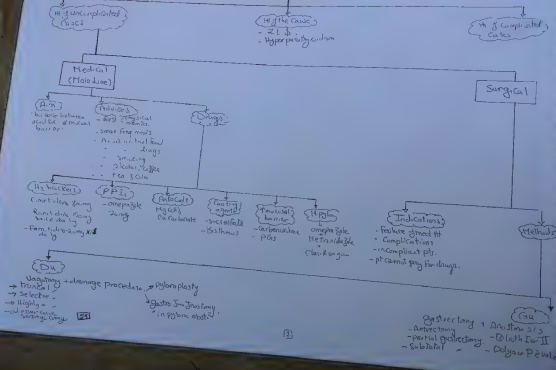
- CBC
- stool analysis

For Inv

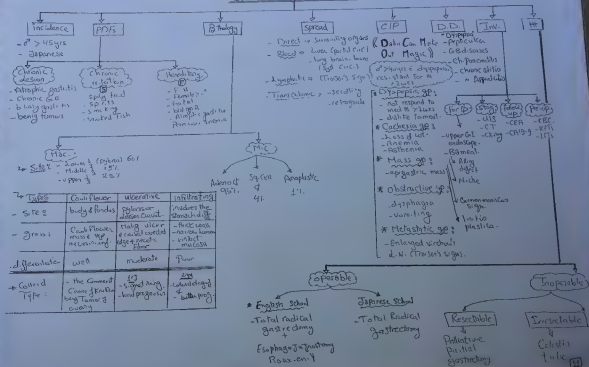
- GI, PA, hyperparathyroidism
- gastric outlet obstruction
- 3rd



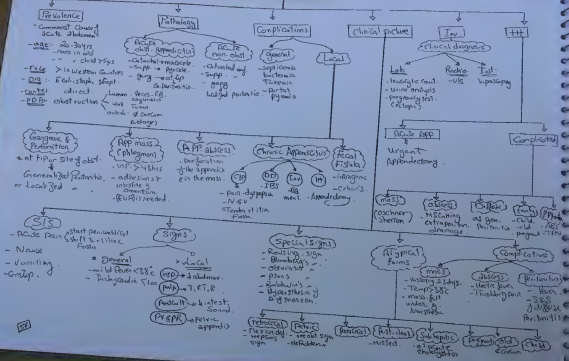
Treatment of Peptic Ulcer



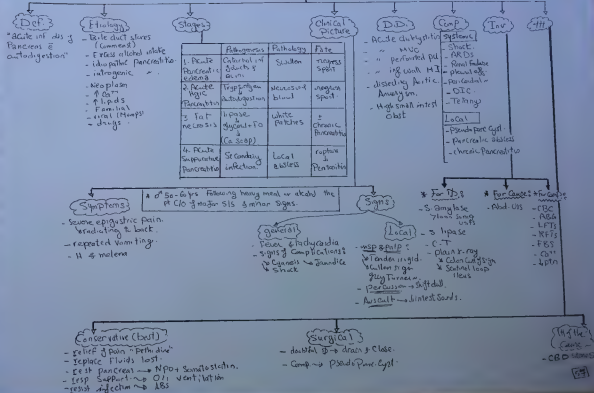
'Carcinoma of the Stomach'



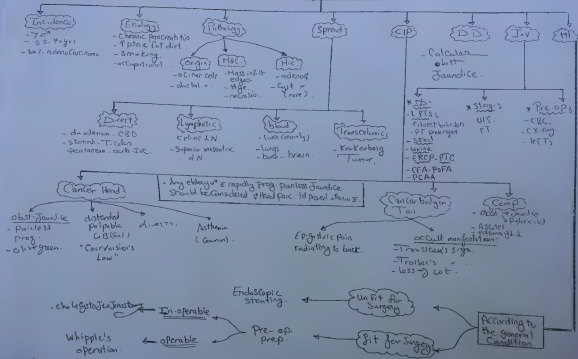
Acute Appendicitis



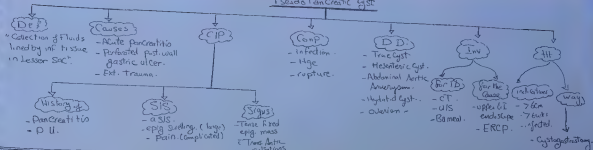
'Acute Pancreatitis'



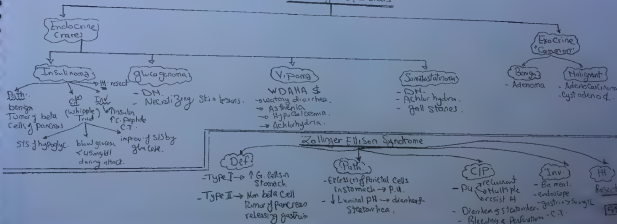
Carcinoma of the Pancreas



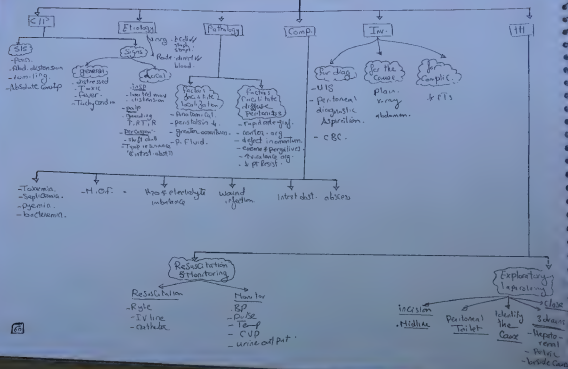
"Pseudo Pancreatic Cyst"



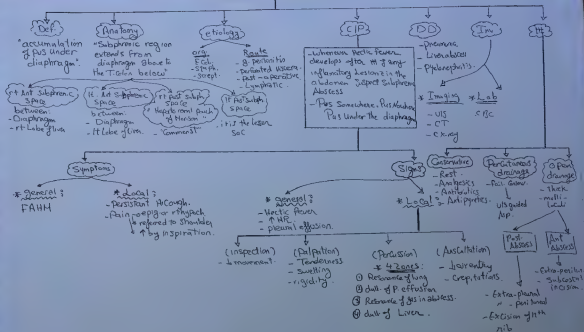
"Tumors of the Pancreas"



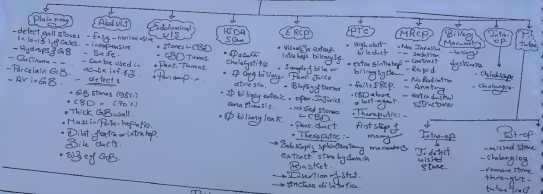
Diffuse (2/3) Bacterial Peritonitis "generalized peritonitis"



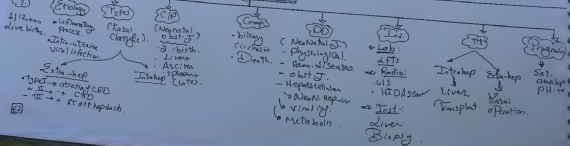
Subphrenic Abscess



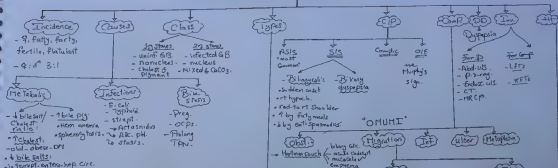
Investigations of Biliary System



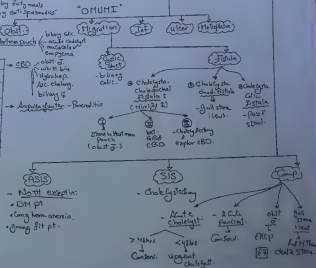
Biliary Atresia



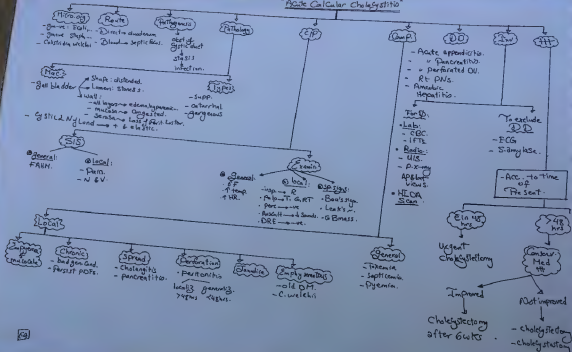
* Gall Bladder stones



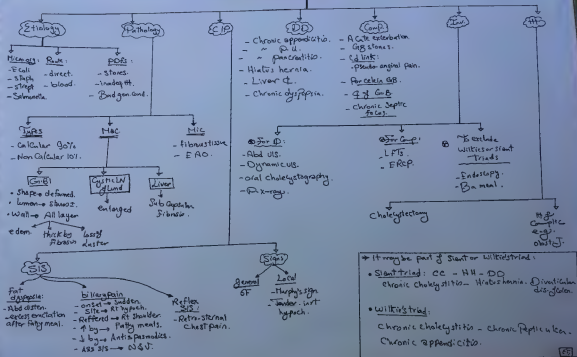
	Cholesterol	Bile Pigment	Mixed
Incidence	8%	10%	80% ✓
Constituents	Pure cholesterol	Bilirubin, Ca ⁺⁺	cholest. Calc., ...
No.	Usually single	Multiple	Multiple
Size	> 2.5cm	< 2.5cm	0.5 - 2.9cm
Shape	rounded.	irregular	Faceted
Surface	Hamiliated	Smooth	Smooth
Colour	Yellow	brunser black.	yellowish
Consistency	Hard & floats	Soft.	Hard & sinks
Cut section	No Nucleus Radiating	Homogenous.	Nucleated & hamiliated
X-ray	Radiolucent.	- Radiolucent 50% - " - opaque 50%	Radio-opaque in 15%.

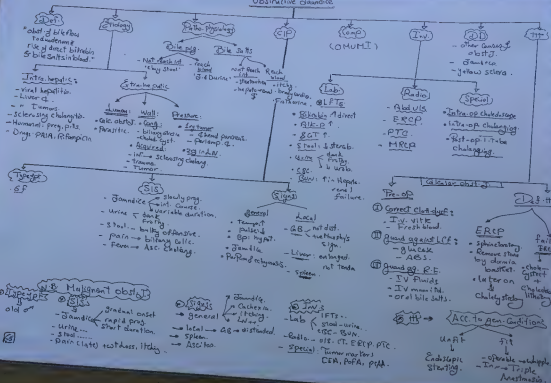


"Acute Calculus Cholecystitis"



Chronic Calculous Cholecystitis





Investigations of the liver

Laboratory

LFTs

S. bilirubin
 - jaundice
 - bile salts
 - Hepatic damage

Transaminases
 - ↑ in acute Hepatitis damage
 eg viral hep.

ALP-D
 - ↑ in cholestasis
 Jaundice & Hepatitis.

γ-GT
 - ↑ in cholestasis
 - determine the origin of ALP

Albumin
 - ↓ in chronic liver dis
 eg cirrhosis

Prothromb Index
 - ↓ is indic. for liver failure

U/S

- 1st choice
 - simple
 - not invasive
 - " expensive
 - Detect
 - focal lesion
 - liver &
 - P.H.

CT & MRI

- visualize parenchyma & major fissures
 - nature of Tumors & Cysts
 - MRI
 - assess blood flow
 - blood flow

Angiography

- by catheterisation
 of Liver
 Tumors

Isotope Scanning

- taken by R.E.S.
 - lesions appears as defects in the scan
 - replaced by U/S & CT scan.

Plain Radio.

- Calcification
 eg Hydrated cyst.

Radiological

Alpha-fetoprotein

- Normal → 0-10 ng/dl
 - > 500 → ACC, metastatic Testicular Tumors.
 - mod. elevation → Hepatitis, Cirrhosis, Pancreatitis.
 - Indications → follow up to detect ACC, focal lesion by U/S, follow up to detect recurrence.

Specific Tests

- **Homocystinosis**
 - S. Iron
 - TIBC
 - S. ferritin
 - Wilson's
 - S. Cu
 - S. Ceruloplasmin
 - Immunobg
 - Anti-antibodies Ab.

Instrumental

Liver Biopsy

Indications

- Ass. chronic liver dis as of chronic Hep
 - Biopsy of focal lesions.
 - Syst dis eg amyloidosis, sarcoidosis
 - Liver Transplant Ass

Lap Biopsy

Liver Biopsy (at laparotomy)

- incl those liver diseases

Technique

Percutaneous Technique

Precautions

- PT not > 35 seconds
 - platelets > 80,000/cc.

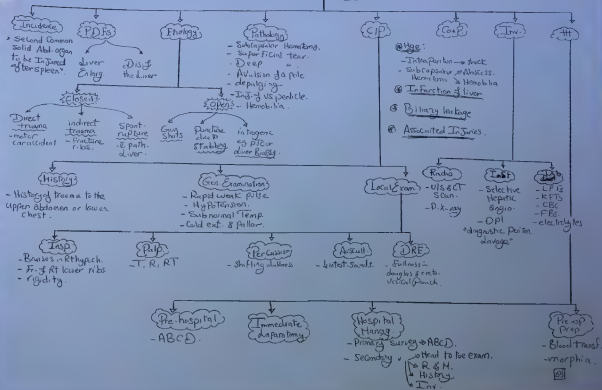
Method

- local Anesth
 - At mid axillary line
 - Menghini or Tru-cut needles

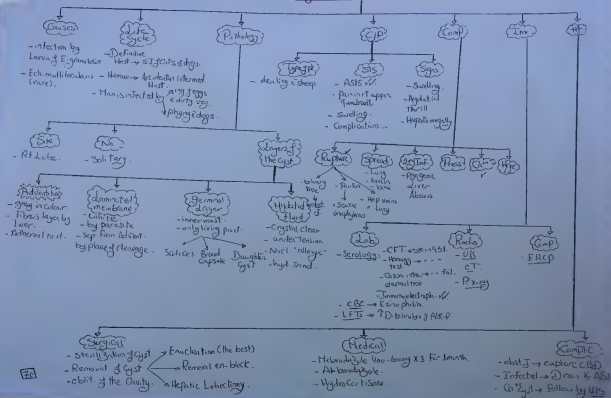
Comp

- Hge
 - bilary Perforation

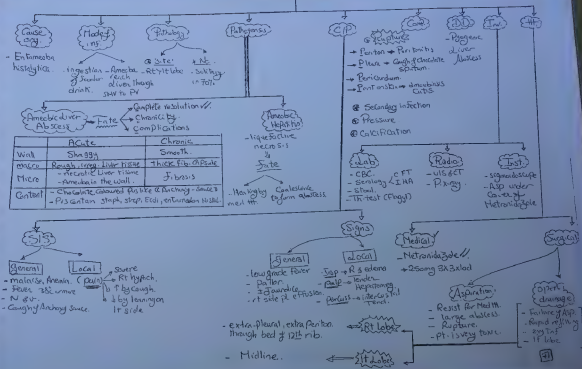
Liver Trauma



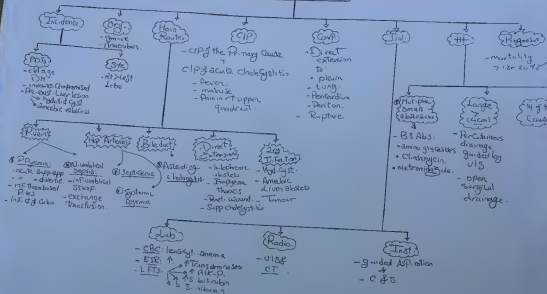
Hydatid Disease of the Liver.



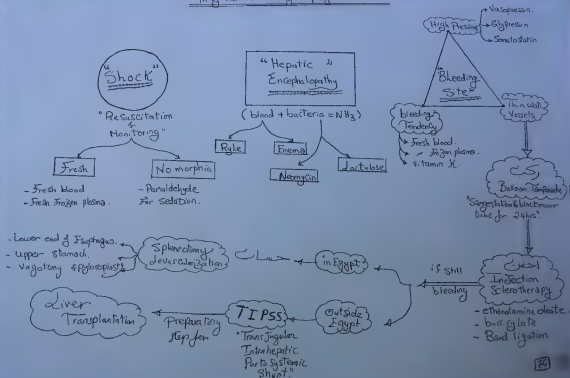
Amoebic Liver Abscess



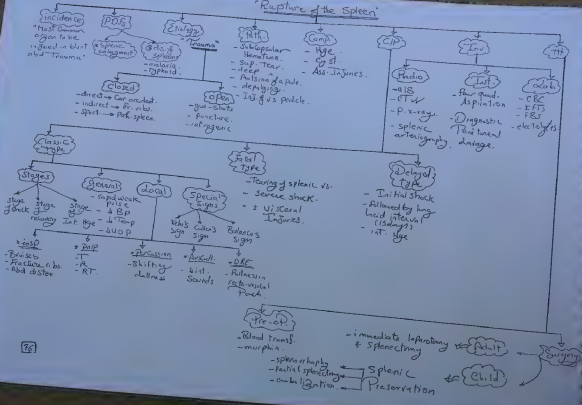
"Pyogenic Liver Abscess"



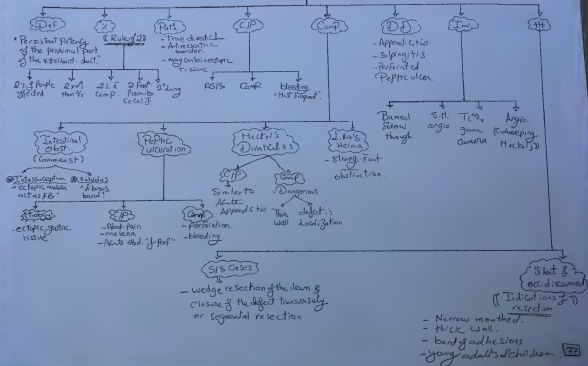
"H of Active bleeding Esophageal Varices"



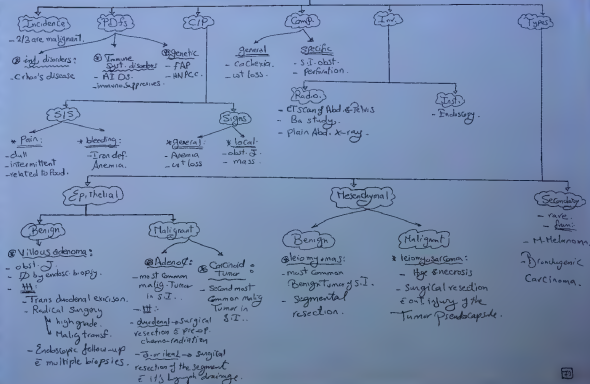
Rupture of the Spleen



Meckel's Diverticulum

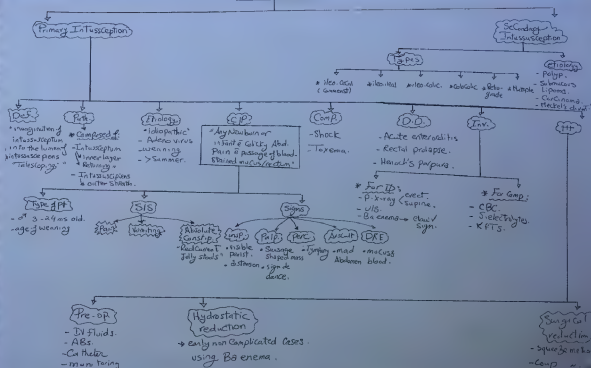


"Small intestine Tumors"

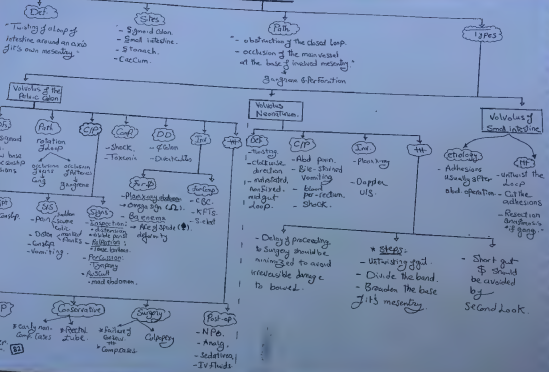




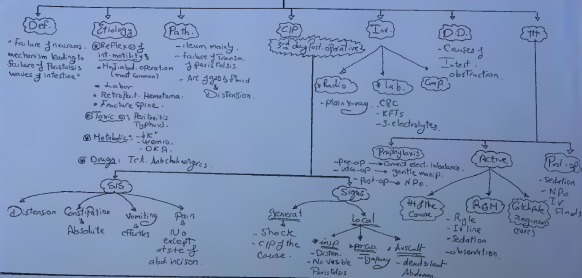
Intussusception



Valvulus



Paralytic Ileus



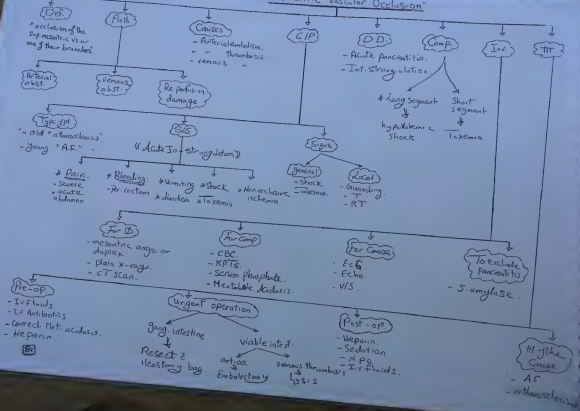
DD of Early Post-op Small Bowel obst.?

- * Etiology:
- P. ileus
 - post-op adhesions.
 - int. hernia.
 - Peritoneal defect.
 - intra-abd. Abscess.

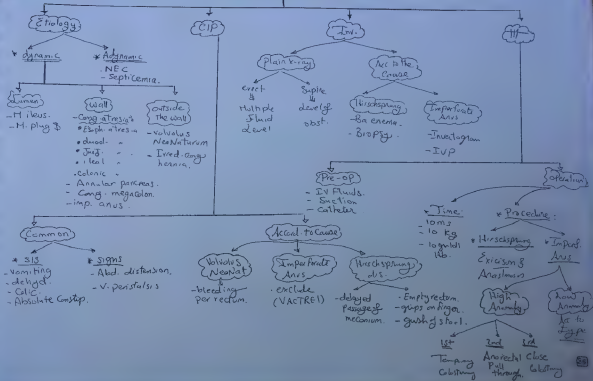
- * Inv.
- x-ray.
 - dilution follows through.

- * Trt.:
- exploratory operation
 - Complete obst.
 - intra-abd. sepsis.
 - prolonged obst.

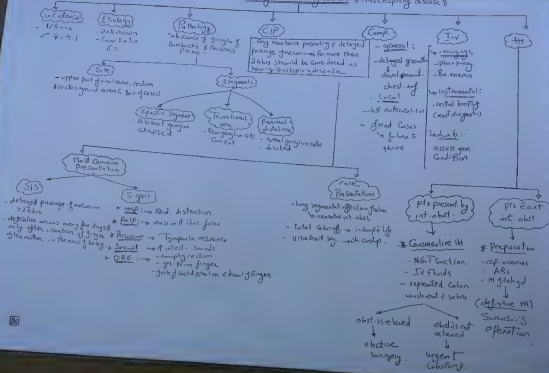
"Mesenteric Vascular Occlusion"



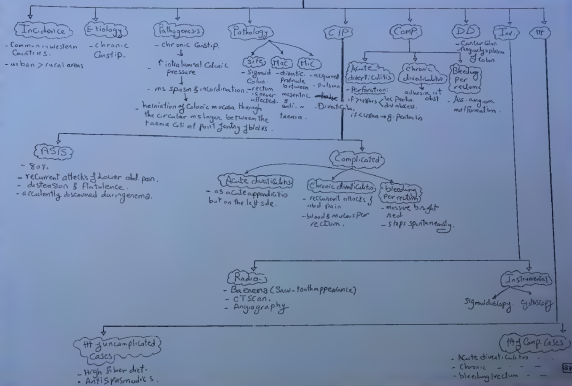
Neo Natal Intest. Obst.



"Congenital Megacolon" (Hirschsprung disease)



* Diverticular Disease of the Colon *



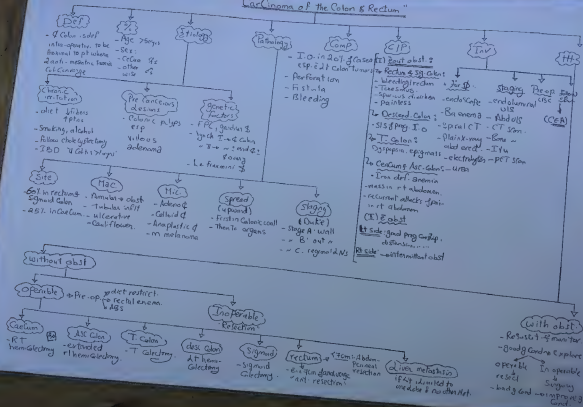
Inflammatory Bowel Disease

	Ulcerative Colitis	Crohn's Disease (regional ileitis)	Bacterial Colitis
- Def:	inflamm of the colon due to ulceration	Chronic transmural granuloma inf that can involve any area in GI	
- %	4% in UK & 5% in Canada	1% in UK & 2% in Canada	
- Etiology	(Unknown) - Autoimmune - Genetic - racial-geographic focus	(Unknown) - Autoimmune - Genetic - racial	- Youngst. Egypt - Schistosoma mansoni
- Pathology (Site) →	- Confined to the rectum & side of colon & rectum. - extensive ulceration - No skip lesions. - Sup. inf. mucosa & submucosa - crypt abscesses - pseudopolyps	- Affects GI esp Terminal ileum - Cobblestone appearance. - Skip lesions - Non-encasing granuloma	- Sigmoid colon & rectum - Bacterial granuloma - Submucosal form: muc. hyperemia, bleed - Diffuse form: all layers of colon & mesocolon are affected → Bacterial Toxin
- Comp. (General) →	- Ery. nodositis. - Tox → arthritis - Skin → erythema nodosum. - Liver → sclerosing cholangitis	- Urteral: cholest. - unpathy → ↓ fertility. growth retardation - Liver → gall stones - Skin. joints. eye. . . . - malabsorption - malignancy - perforation. - per. anal supp. - massive fist - fistula - fistula	- Anemia - Hypoproteinemia - Partial rectal prolapse - prolapse & strang. of polyps.
- (Local) →	- Toxic mega colon - malignancy - Perforation - Perianal suppuration - fibrosis - massive fist		
- C/P	- No diarrhea, abd pain, wt loss, dehyd	Acute attack: → Similar to acute appendicitis Chronic case → Diarrhea, pain, wt loss, bleeding	- Diarrhea, Tenesmus, pallor, clubbing - mass in iliac fossa. HSM.
- Inv.	- Ba enema, Colonoscopy & Biopsy	- Ba enema Below through - Colonoscopy & Biopsy	- Stool - CBC - CoPT - sigmoidoscopy - urine - AFTS - Ba enema
- Hx.	- rest - Diet - stpn. wt - iron	- rest. Diet -	- Antibiotic, Zol drugs - Polyps → polypectomy - ulcers → cautery
- Medical →	- Sulphasalazine. 1 liter. Azathioprine	- steroids. Sulphasalazine - Playd.	
- Surgical →	Pen. Proctocolectomy & ileal reservoir	limited resection of affected segment.	

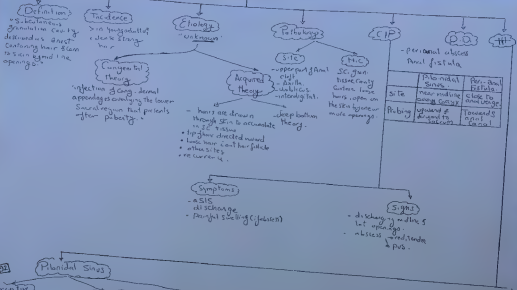
Rectal Prolapse → (Protrusion of the rectum through the anus.)

	Partial rectal Prolapse	Complete rectal Prolapse
- Definition	Prolapse of rectal mucosa	- Prolapse of whole thickness of rectal wall
Etiology:	* Children: "Loss + strain" - Loss of Curve of Sigmoid - wt - Straining * Adults: (i.e. 2B) - Piles (haemorrhoids) - Prostate (BEP) - elderly - atrophic.	* m. m. d. q. - maturation of collagen → defective - mesorectum → Abnormal mobility - ♂ → bilateral proctitis - ♀ → repeated child birth.
- Pathology:		
Length →	< 5cm	> 5cm
Thickness →	mucosa only	whole rectal thickness
- Complications:	ulceration & infection - Bleeding - irreducibility - Strang. & gangrene - Fecal incontinence - proctitis	
- C/P	* <u>SIS</u> : - Something protruding from the anus at defecation - Picture of complications * <u>Signs</u> : - inspects: Prolapse seen in Squatting or Lat. position & straining - <u>Palp</u> : For thickness of Prolapse & tone of the sphincters	
- Investigations:	- Anorectal manometer, EMG of rectal sphincters - Sigm. discepsy Biopsies → To exclude polyps, masses or underlying causes.	
- D D :	- Prolapsing Hemorrhoids - " Polyp. - " intussusception	
- Ht :	* Children - Correct Cause. - digital repulsion. - Submucous Inj. of abscess - Alcohol or phenol - Thiersch operation	* Adults - Correct Cause. - Sphincter exercise - Rectopexy. ✓

'Carcinoma of the Colon & Rectum'



Pilonidal Sinus

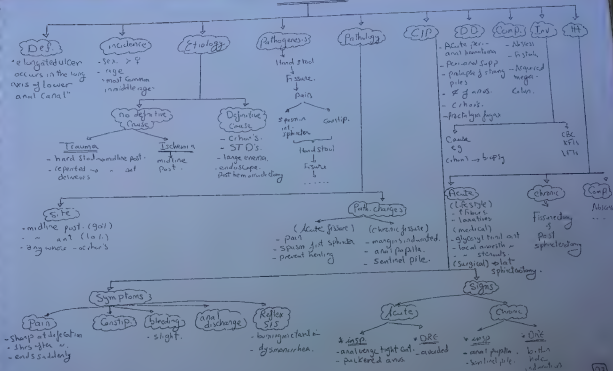


	PA	H
Site	near midline, away from cleft	close to anal opening
Probing is	upward & directed to subcutaneous	Towards S, anal canal

Pilonidal Sinus

- Conservative** (mild SLS)
 - clean the track
 - remove hair
 - frequent washing.
- Conservative**
 - perianal cavity
 - wound open.
 - Packing.
- Wide local excision of Skin & SC. tissue to perianth followed by**
 - closed method.
 - open "
- Pilonidal Abscess**
 - rest - Antibiotics
 - Analgesics, Antipyretics.
 - Drain.
 - remove hair.

"Anal fissure"



Hemorrhoids (piles)

Internal Piles

Def

Venous distention of Superior hemorrhoidal plexus veins

Etiology

Long Hemorrhoids

- Prolapsed
- Cong. weakness of connective tissue
- 1st & 2nd
- 3rd & 4th rectal plexus are supported

2nd Hemorrhoids

- Pregnancy
- 2nd rectum
- PH

S/S

- Bleeding
- Painless bright red
- Prolapsed
- Pain (only in comp.)

Pathology

- more than 2-3 cm
- common 1st & 2nd
- 3rd & 4th at block
- Daughter piles
- branches of mother
- Lie in between

External Piles

Pathogenesis

capture of dilated anal sacs

CIP

- S/S
- Sudden pain
- 2 cm
- Turn, water, wash, swelling
- Caused by 3rd, 4th, 5th

Inte

- no pain
- 5-10 mm
- ulcerate

Inte

- excised under Local Anesthesia

Intero-external Piles

(most common)

CIP

1st degree

- only bleeding, no prolapse

2nd degree

- Prolapse only during defecation, reduced spontaneously

3rd degree

- reduced manually
- 4th degree
- Permanent prolapse

S/S

- 1st & 2nd
- 3rd & 4th
- 5th & 6th
- 7th & 8th
- 9th & 10th

Clinical degrees

Comp

Internal Prolapse

1st degree

2nd degree

3rd degree

4th degree

5th degree

6th degree

7th degree

8th degree

9th degree

10th degree

11th degree

12th degree

13th degree

14th degree

15th degree

16th degree

17th degree

18th degree

19th degree

20th degree

21st degree

22nd degree

23rd degree

24th degree

25th degree

26th degree

27th degree

28th degree

29th degree

30th degree

31st degree

32nd degree

33rd degree

34th degree

35th degree

36th degree

37th degree

38th degree

39th degree

40th degree

41st degree

42nd degree

43rd degree

44th degree

45th degree

46th degree

47th degree

48th degree

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196th degree

197th degree

198th degree

199th degree

200th degree

201st degree

202nd degree

203rd degree

204th degree

205th degree

206th degree

207th degree

208th degree

209th degree

210th degree

211st degree

212nd degree

213rd degree

214th degree

215th degree

216th degree

217th degree

218th degree

219th degree

220th degree

221st degree

222nd degree

223rd degree

224th degree

225th degree

226th degree

227th degree

228th degree

229th degree

230th degree

231st degree

232nd degree

233rd degree

234th degree

235th degree

236th degree

237th degree

238th degree

239th degree

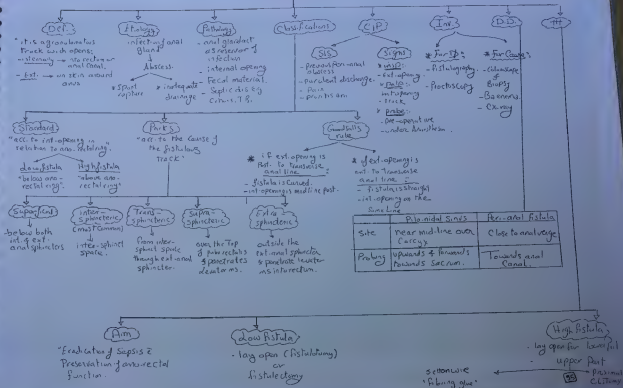
240th degree

241st degree

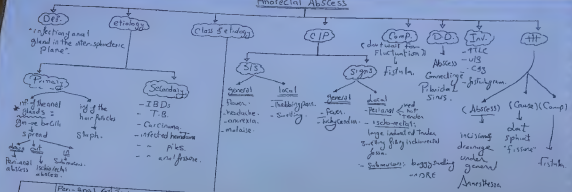
242nd degree

243rd degree

(Anal Fistula)

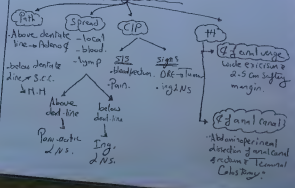


Anorectal Abscess

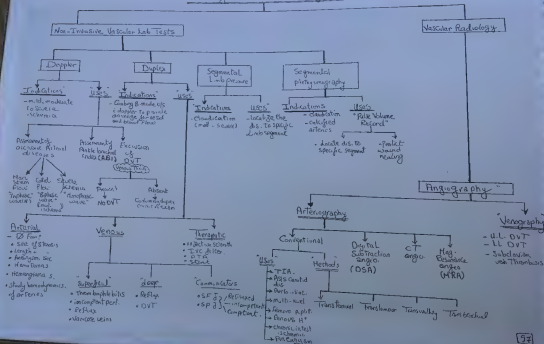


	Peri-anal for Subcutaneous	Ischio-rectal 3-4%	Sub-mucous 5%	Peri-rectal 5%
Site	Subcutaneous close to the anus	Ischio-rectal fossa	Sub-mucous above internal line	between the upper surface of internal & external anal sph.
Etiology	inf. of peri-anal haemorrhoids & inter-sphincter abscess	inf. extending from ischio-rectal abscess	inward spread of inter-sph. abscess	Peri-subcutaneous spread of inter-sph. abscess

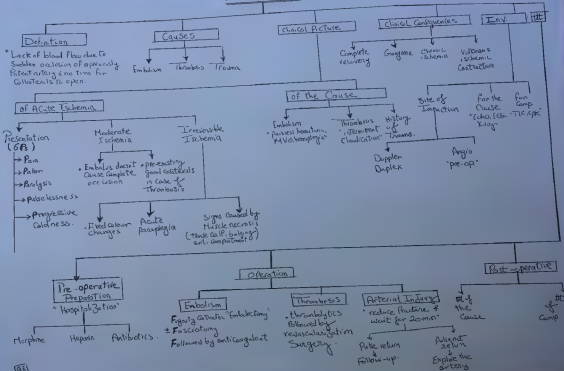
Carcinoma of Anal Canal



Investigations for Vascular System



Acute Ischemia



Chronic Ischemia

Definition

Gradual cessation of blood supply due to partial or incomplete arterial occlusion giving enough time for collaterals to develop

Causes



Clinical Picture

"The most imp. is pain"

Investigations

Diagnosis

Value	Diagnosis	Angiogram	Other Systems
Diagnosis	Diagnosis	Diagnosis	Diagnosis
Diagnosis	Diagnosis	Diagnosis	Diagnosis

of Chronic Ischemia

Symptoms

Pain Classification

Character	Rest
① Character	Crimp like
② Site	Burning, severe awakes the pt from sleep.
③ Comes on	depends on level of obstruction
④ Relieved by	lowers limb

Signs

General Pulse + A

Arterial
Fistula

Local

Arterial
Anemia

of the Cause

Atherosclerosis

Burger

of Comp.

Ulcer

Deg. gangrene

Other Systems

Heart
Kidney
G.I.T
Rheumatoid Arthritis

Loss of hair
dry, thin
real brittle
limb
loss of toes

Symptoms

of both
LLs

Color

pale
blue
red
black

Temp

cold
fever
decr.

2 ms

muscle
both feet
grossly affected

2 ms

muscle
both feet
grossly affected

2 ms

muscle
both feet
grossly affected

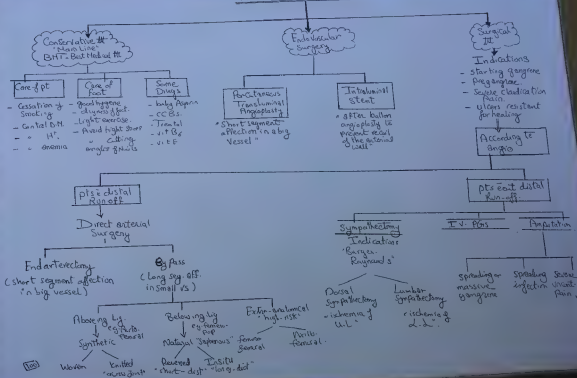
2 ms

muscle
both feet
grossly affected

Sensory

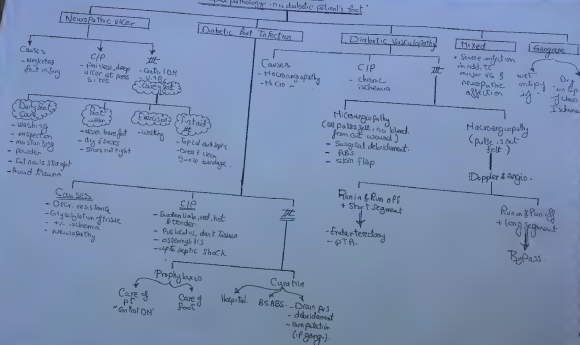
99

of Chronic Ischemia

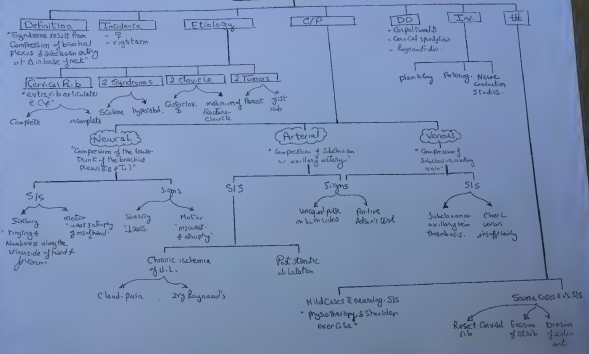


"Diabetic foot"

"Complex pathology in a diabetic patient's foot"



Thoracic outlet Syndrome



Gangrene

Definition

macroscopic death of tissues due to loss of blood supply due to bact. infection & putrefaction

Site

usually distal part of limb

Etiology

Ischaemic
- thrombosis
- embolism
- vasospasm

Neuropathic
- syringomyelia
- paraplegia

Venous

Traumatic
- blunt but -
- lacerations
- indirect - act. inf.

Infective
- specific gangrene
- necrotic gangrene

Physicochemical
- burns
- frostbite
- radiation

Types

Dry Gangrene

- Chronic ischaemia

Moist Aseptic Gangrene

- Acute ischaemia
- Chronic - e.g. per. edema

Moist septic gangrene

Etiology

Infection
- gas gang.
- tissue & circulatory gangrene

CIP

Limb
- swollen, edematous
- inflamed
- very ill odor

Skin

moist
- & bulging
- & red
- & serum

Special types of gangrene

Causes

- putrefaction
- odor
- cross
- line of demarcation
- fate

CIP

Thermal trauma

Marked Trauma

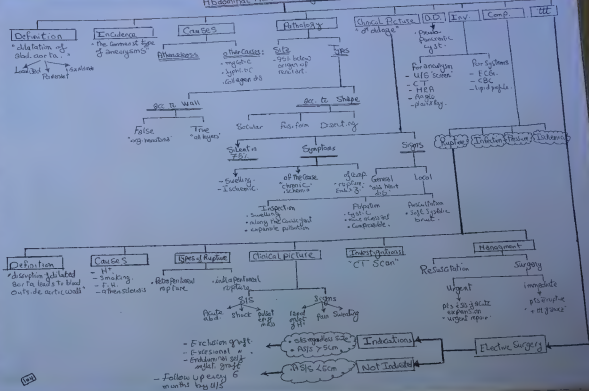
Press & Site How Colour Fades
False Sens. Heat Colour change
(Lost)

- Chronic ischaemia

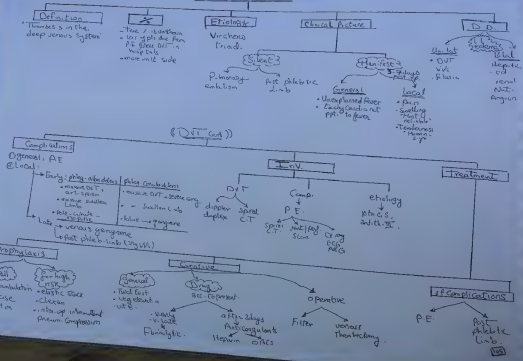
- Amputation till the level of pulsation

	Diabetic ulcer	Fournier's gangrene	Virchow's gangrene
Site	- over bony prominence	Scrotum	L.L.
Etiology	- prolonged press - immobilization	mixed infection (synergism)	extensive thrombosis of the major peripheral vessels (phlegmasia cerulea dolens)
HL	- present - Curative - amputation - hyperbaric - dry sclerol - HES - cryochem - skin flap - graft portion	- HES - wide local excision - skin graft	- limb is elevated - Anticoag. therapy

Abdominal Aortic Aneurysm (AAA)



Deep Venous Thrombosis



Treatment of Varicose vein

Primary varicose vein

I. Conservative ttt

Indications:

- Early uncomplicated 1ry V.V.
- Pt. unfit for operation
- Reassurance

Methods:

- Removal of any P.D.F.
- Elastic stockings
- Elevation of L.L.
- Vitamin - antioxidants - venotonics

II. Injection sclerotherapy

Indications:

- Moderate cases of 1ry V.V. with main C/O of cosmetic disfigurement.
- Residual V.V. after operation.

Contraindications:

- Septic thrombophlebitis
- Secondary V.V.
- Long saphenous vein

Complications:

- Extravasation → sloughing & necrosis of skin
- D.V.T.
- Syncope due to drug sensitivity.

III. Surgical ttt

5. Indications

- Large 1ry V.V.
- Presence of complications (pain)

Trendelenburg's operation

Indications:

- Incompetent sapheno-femoral valve
- A step of stripping operation of the long saphenous vein

1. Pre-operative

- Localize. of veins & incompetent perforators
- Marking their site

Stripping of long saphenous

- Varicosity is affecting the long saphenous & the sapheno-femoral junction is competent

2. Operations

Triple ligation of incompetent perforator

- Incompetent ankle perforator if 2 or 3 in number

Inverting stripping

- Using metal pinstripper to decrease risk of nerve damage

3. Post-operative

- Compression bandage

Recent lines of ttt

VNUS closure

- Using ablation catheter for destruction of long & short saphenous

TRIVEX

- Using suction & injection for removal of sup. veins

TTT of complications

Pigment & eczema

- Local cleanliness & avoid itching
- Rest & elevation
- Hydrocortisone & zinc oxide ointment

Varicose ulcer

Conservative

- Rest
- Elevation
- Elastic stocking

Surgical

- Cockett & Dodd

Hemorrhage

- Dress. with saline
- elevation & pressure bandage

Morison ulcer

- excision with safety margin & cross leg flap

Talipes equine

- physiotherapy

Periostitis

- saucerization

4. Complications & surgery

- Bruises & discomfort
- Pain
- Nerve injury (sensory, motor)
- Venous thrombosis

Leg ulcers

[illegible]

Venous ulcers

Def
"discontinuity of
ep. th. function
relation to high
various physical"

- phosphoric limb
- A-V junction
- 4.3 V-Vg

Pathology
-venous hypertension

CIP
ulcer
see table

Complications

- Hemorrhage
- Talipes equinovarus

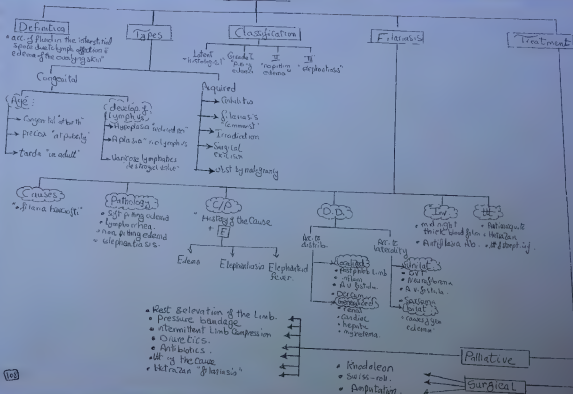
$$D = D_0$$

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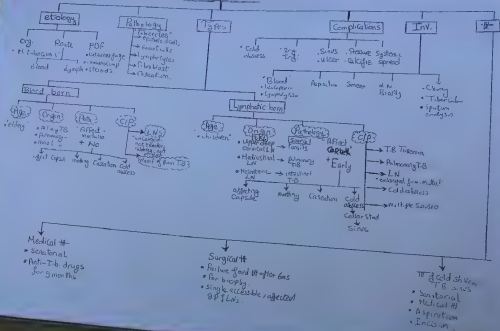
graph TD
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1. $V_1 = V_2$

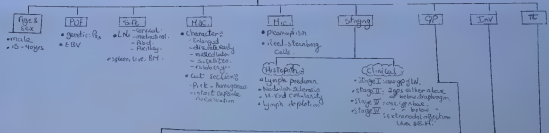
Lymphedema



TB Lymphadenitis

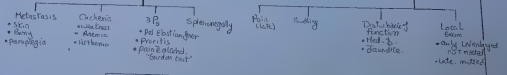


Hodgkin's disease



Occult

Frank



Routine Investigations
CBC, FBS, CKMB, ECG, IPT, KFT

For Diagnosis
• LN Biopsy

For Staging
• US
• Liver biopsy
• Bone Scan
• Spiral CT
• Laparoscopy

General

- vitamins
- blood transfusion
- iron therapy

Radiotherapy

- Mantle
- Inverted Y

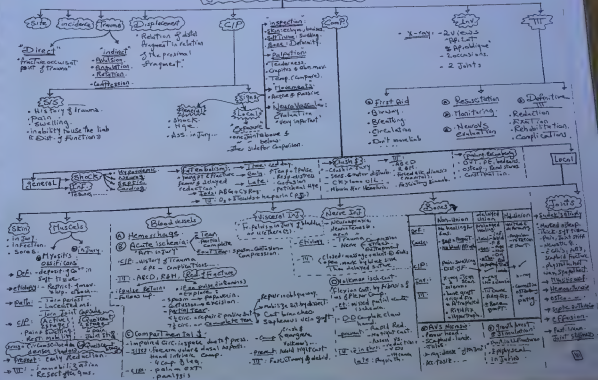
Cytotoxic drugs

MOPP
• Mustine
• Vincristine
• Procarbazine
• Prednisone

Chemotherapy

Surgical Excision

General Scheme for Fractures



Treatment of Fractures

First Aid

- 1. Airway is patent.
- 2. Breathing is maintained.
- 3. Circulation - stop bleeding by wound dressing.
- 4. Don't move limb & fracture/joints.
- 5. Drugs e.g. Morphine for pain.

Reduction

- Aims**
 - Outward movement.
 - Short time for union.
 - Restoring limb.
- Types**
 - Closed - under anaesthesia, Traction & counter-traction.
 - Open - Indications:
 - Fract. closed.
 - Red. Fracture: - Stress, infection, arthritis.

Fixation

- Should include postural & distal joints.

Rehabilitation

- Physiotherapy & active movements.
- Methods:
 - 1. Active exercises, Asa-movements, Rest-activity.
 - 2. Passive - Stiffening of Joints.
 - 3. Early: Maintain function of unjured parts.
 - 4. Late: Restore function of injured parts once healing occurs.
- Stiffening of Joints:
 - Osteoarthritis.
 - RCT Syndromes.
 - Edema.

Definitive III at Hospital
Rehabilitation & Primary Surgery
Definitive III

III of Comp.

Non Rigid

- Risk of loss of Red. blood cells formation.
- Types**
 - Plaster of Paris.
 - Traction.

Rigid

- Places in need leading but don't allow formation.

Comp. Fracture

- Compound Fractures.
- Soft tissue damage.
- Medullary.
- Comp. & unstable fracture.
- Fracture, joints.
- Infection Fractures.

Int. Fixation

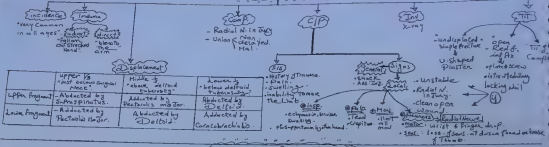
- Indications:**
 - Fractures that can't be reduced.
 - Unst. fracture, pseudo-tumor.
 - Poor union Fractures.
 - Pathological Fractures.
 - Polytrauma.
- Types:**
 - Screw.
 - Nail.
 - Plate.
 - Intramedullary nail.
 - External fixator.
 - Re-fracture.

Open Fractures "Compound"

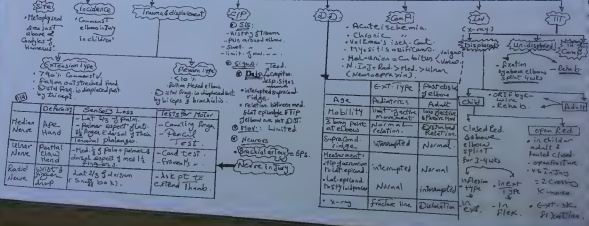
- ① Def: Fracture, hematoma comm. & exterior.
- ② Def: Trauma from outside cut skin then fracture the bone.
- ③ Def: Trauma from inside above fragments cause skin injury.
- ④ Def: Trauma from outside cut skin then fracture the bone.
- ⑤ Def: Trauma from inside above fragments cause skin injury.
- ⑥ Def: Trauma from outside cut skin then fracture the bone.
- ⑦ Def: Trauma from inside above fragments cause skin injury.
- ⑧ Def: Trauma from outside cut skin then fracture the bone.
- ⑨ Def: Trauma from inside above fragments cause skin injury.
- ⑩ Def: Trauma from outside cut skin then fracture the bone.
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- ⑬ Def: Trauma from inside above fragments cause skin injury.
- ⑭ Def: Trauma from outside cut skin then fracture the bone.
- ⑮ Def: Trauma from inside above fragments cause skin injury.
- ⑯ Def: Trauma from outside cut skin then fracture the bone.
- ⑰ Def: Trauma from inside above fragments cause skin injury.
- ⑱ Def: Trauma from outside cut skin then fracture the bone.
- ⑲ Def: Trauma from inside above fragments cause skin injury.
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- Fracture clavicle**
- Commonest Site**
 - Junction between Medial 1/3 & Lateral 2/3
 - This Junction is weakened by - Chagoss Curve
 - Presence of Subclavian artery
 - Ground for Subclavian a.s.
 - Incidence**
 - Most comm. Fracture of U.L.
 - Most comm. Fracture in Child Clavicle.
 - Trauma**
 - **Direct**
 - - blow to the clavicle
 - **Indirect**
 - - Fall on outstretched Hand.
 - - Green stick in Child
 - Displaced**
 - Proximal fragment is pulled up by Sternocleid.
 - Distal fragment is displaced downwards by the wt of Limb.
 - ± Green stick in Child
 - CIP**
 - Malunion (most common)
 - Costa clav. 3°
 - Non union (uncomm.)
 - Stiffness of shoulder in elderly
 - **Injury**
 - **Psychic** - pleural & subcl. Vessels must not be damaged
 - **Subclavicular** - pleural & Lung
 - Comp**
 - Malunion (most common)
 - Costa clav. 3°
 - Non union (uncomm.)
 - Stiffness of shoulder in elderly
 - **Injury**
 - **Psychic** - pleural & subcl. Vessels must not be damaged
 - **Subclavicular** - pleural & Lung
 - Inv**
 - X-ray
 - III**
 - 1/3 part trauma
 - AC/CC then R/G**
 - Closed - Reduction under G.A.
 - **Unstable**
 - - Arm to neck - 55°
 - - Rigid - open pulse. R/G
 - - Rupture & laceration of child's
 - **Inst. Fix**
 - - Nerve plexus lesion
 - - 15% 15°
 - Signs**
 - **Neurologic evaluation** (this is 2nd)
 - **Motor** - Subclavian (C6, C7)
 - **Sensory** - C5, C6
 - **Reflex** - C5, C6
 - **Motor** - C5, C6
 - **Sensory** - C5, C6
 - **Reflex** - C5, C6
 - **Loss Active & Passive mov.**
 - **Relaxation**
 - Displaced clavicle
 - Tender n.s.
 - Crepitus
 - Abnormal mov.
 - **Swelling**
 - Swelling, edema, bruise & deformity
 - Shoulder drop
 - Step handle deform.
 - Push of lost motion
 - **Shoulder Dislocation**
 - **Inst. (X-ray)**
 - Most common dislocation just of body (45%)
 - Common in adolescent & young adults
 - because - shallow glenoid cavity, large humeral head, wide range of shoulder movements

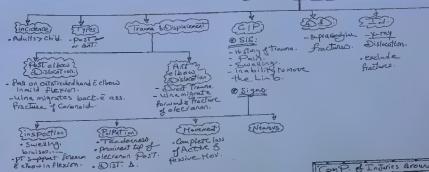
Fracture Shaft Humerus



Supracondylar Fracture of Humerus



Elbow Dislocation



III

• Post dislocation:

1. Reduction:

- Under G.A. and release to allow the forward traction
- X-ray to confirm Red.
- check flow

2. Fixation:

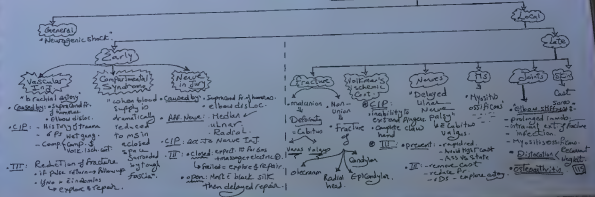
- Active elbow cast & duty
- Active exercises

3. Ant. Dislocation:

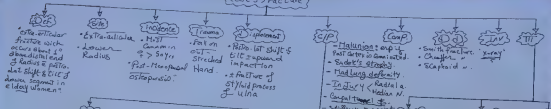
ORIF using tension band.

4. III of complications:

Comp. of Injuries Around Elbow



Colles' Fracture



- History of Trauma.
- Pain above wrist.
- Swelling.
- Partial loss of mov. around wrist.

Signs

- Swelling.
- Redness.
- Crepitus.
- Grinding.
- Displacement.

Palp

- Tenderness.
- Crepitus.
- Grinding.
- Displacement.

Movement

- Loss of active movement.
- Passive movement.

NeuroVs

- Radial a. - Allen's test.
- Median N.
- No deformity: Appear hand.
- Good loss: Lat V's of palm.
- Primary aspect of lat V's of palm.
- Distal of them: 1. Proximal.
- 2. Middle.
- 3. Distal.
- 4. Proximal.
- 5. Middle.
- 6. Distal.
- 7. Proximal.
- 8. Middle.
- 9. Distal.
- 10. Proximal.
- 11. Middle.
- 12. Distal.

Red. & Fixation for 4-6 wks.

- Red. & Fixation for 4-6 wks.

Rehabilitation

- Physiotherapy.
- Active Mov.

Tilt of Comp.

- Snook's atrophy.
- Radial a.
- Med N.
- Rupture of Extensor Pollicis longus.
- Tendon.

Head Radius

- Head Radius.
- Head Radius.

Distal Radius

- Distal Radius.
- Distal Radius.

Comp

- Comp.
- Comp.

Inv

- Inv.
- Inv.

Tibia

- Tibia.
- Tibia.

Smith Fracture

- Def:** Reverse of Colles' Fr.
- Category:** Fall on dorsum of hand.
- Disphc:** distal frag. is displaced dist.
- Defect:** Garden Sprae.
- Tilt:** Reduction by Manipulation.
- Fixation:** Above elbow cast for 6 wks.

Fracture of Scaphoid Bone

- Site:** Waist of Scaphoid.
- X:** Most com. Hand Fr.
- Trauma:** Fall on outstretched Hand.
- C/P:** - Wristing.
- Pain.
- No gross impairment of function.
- Tend. in wrist. Snuff box.
- X-ray: may not show Fr. immediately.
- Informative after 2 wks.
- Comp:** - Non union - Atrophic.
- Snook's at.
- Stiffness.
- Tilt:** - POP & abducted Thumb.
- Int. fix by Herbert screw.
- Tilt of Comp.

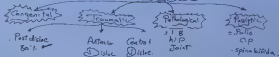
Fr. of Styloid process of Radius

- Fr. olecranon.**
- Monteggia Fr:** fracture upper 1/3 of ulna + sup. Radius ulnar J.
- Galeazzi Fr:** - distal 1/2 Radius + carp. J.
- Ext. both bones:** - Comp. J, Fr. union, McCarroll's app.
- Ext. Head Radius:** - Fall on outstretched hand.
- Painful rot. of forearm.
- ORIF by 2 wire.
- Bennet's Fracture:** = Fracture disloc of 1st Metacarpal.

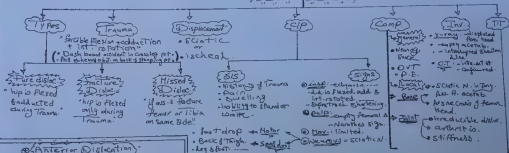
Normal Need of stability of Hip Joint :

- Active** : M's action = time & cont.
- Passive** :
 - ligaments = minimal role.
 - capsul =
 - intra-art. pressure
 - deep acetabulum.

Hip Dislocation



Post Hip Dislocation



Anterior Dislocation

Trauma: Possible abd & ext. rot. is flexed hip.

CIP : **imp** - limb flexed, abducted & ext. rotated ± lengthening.

palp : Head felt on pubic bone in Perineum.

Mo : impaired.

Types :

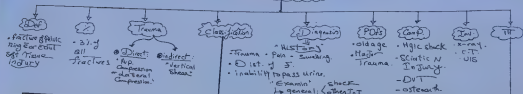
- obturator : hip is flexed during trauma.
- pubic : - - - extended - - -

Comp : - Abs. necrosis
 - 1/2 of femoral bolt NS & vs.
Inv : - x-ray & CT.
 - Reduction under GA
 - SK traction by Thomas split table
 - follow up

Central Disloc :

- Direct trauma to Trochanter
- Pain - flat Trochanter
- Min displ. of femur head. SK traction Saks
- Disloc of - - - T3 of Comp
- Sciatic N injury

fracture Pelvis



Fractures not affecting stability of Pelvic ring

Avulsion Fracture
etiology:

- Sudden violent MS Cont.
- Fracture of ASIS & anterior violence
- Ant. inf. I.S. & rectus femoris violence
- Diagnosis: acute Pain, ...
- History: ...
- Physical: ...
- Bruius: ...
- X-ray: - Fracture Line
- Be sure that sacro-iliac joint is undamaged
- Inst: Bed rest & analgesics for 3 weeks

Unilateral Fr. of Pubic or Iliac rim

Fracture of Sacrum & Coccyx

- Compression Fracture
- double break in ant. seg.
- Coccyx seg. post. displacement
- Distraction of symphysis pubis & sacro-iliac jts.
- Displacement

Butterfly fracture

- Compression Fracture
- double break in ant. seg.
- Coccyx seg. post. displacement

Open book fracture

- Blow force fracture
- Wide sep. of symphysis pubis
- little sep. of sacro-iliac joint

Vertical force fracture dislocation

- Blow force fracture
- Wide sep. of symphysis pubis
- little sep. of sacro-iliac joint

Emergency ABCD

- ABC
- Resusc
- Neuro

Hospital

- Resusc
- Neuro

TT of fracture

- Bladder: close right then left's catheter
- Urethra: Suprapubic catheter when dilated
- Rectum: Contrast only

TT of Comp.

- Bladder: close right then left's catheter
- Urethra: Suprapubic catheter when dilated
- Rectum: Contrast only

Aff. stability

- Butterfly
- Open book
- Ant. gap > 2cm
- Ant. gap > 2cm
- Ext. Rx
- ORIF

Too unstable

- Stabilise pelvis to control bleed
- C-Clamp
- ORIF
- Vertical fractures

Not stable

- Bed Rest
- Analgesics for 6 weeks

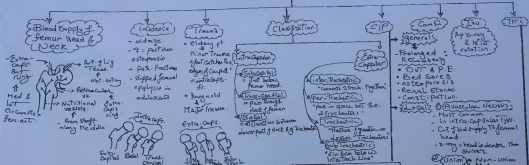
Malunion Fracture

- Unilat. double pelvic gr. upward dislocation

Total Pelvic Disruption

- Bilat. Pelvic ring fracture

Fracture Neck Femur



Impacted = usually nonunion, & is overlooked, Tend. over fracture site
"Missed Fracture"

Unimpacted

SIS

- History of trauma.
- Pain in hip region - refers to groin & medial side of knee.
- Swelling
- Inability to walk.

Imp

swollen over of thigh
mark of extracaps.
Definite blood
more = extracaps.
shortening

Imp

Tender greater trochanter

Imp

straight leg raising test = unable to raise extend. leg.

Imp

Neurovascular Sciatic N. ↓ weight ↓ Sens. loss in back of thigh, leg & foot.

Imp

Tear in Hb & Trochanter

- ABCD
- R & M
- in polytraum pt.

Intra-Capsular Fracture

- Type I: rest in bed.
- Type II: not Rx by more physio.
- Type III: Young - ORIF → ORIF or Total Hip Replacement
- Type IV: Old - Hemiarthroplasty or Thompson or Austin Moore
- Total Hip Rep.

Extra-Cap.
ORIF by DHS.

TIF
e.g. has necrosis
→ Prost. more an
Total Hip Rep.

fracture shaft femur

Site

- Subtrochanteric.
- Mid shaft.
- Supra Condylar. (more isolated)

Classification

- Spread with indirect trauma.
- Transverse - path ~
- Comminuted - direct ~

CIP

① SIS

- History of trauma
- Pain
- Swelling
- inability to move the limb

② Signs

- General: Shock ✓, Asx. int.
- Local:
 - o erythema
 - o swelling
 - o deformity
 - o pain
 - o tenderness
 - o crepitus
 - o abnormal range of mobility
 - o Neurovascular injury
 - o palp. tenderness
 - o palp. tenderness
 - o palp. tenderness

Comp.

Inv.

IT

③ Urgent IT (Life Saving)

- ABCD for polytrauma.

④ At Hospital:

- Resus. & IT Survey
- Neurovascular exam.

⑤ IT of Fracture

Site	Subtrochanteric	Midshaft	Supracondylar
- Displacement	- 5cm below interach. line	- In between	- 9cm above femoral condyle
- Proximal	- Abduction by glutes	- Forward by quadriceps	- Forward by quadriceps
- Distal	- Adduction by adductors	- Backward by hamstrings	- Backward by gastrocnemius

General

- Shock
- Comp. of Prolonged Recumbency
- Path. Embolism

BVS

- Femoral artery in midshaft fracture
- Pop. artery in supracond. fracture

Nerve int.

- Lat pop. in supracond. fracture

Fracture

- Non union
- Mal - infection

Joint

- Stiffness
- Locking
- "Gummed"

MS

- Myositis ossificans
- Volkmann's contracture
- 1 cm. - in open fractures

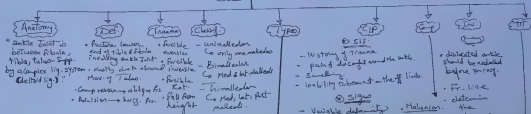
Skin

- In open fractures

Subtrochanteric	Midshaft	Supracond.
ORIF by:	ORIF by:	ORIF by:
• condylar plate 95°	• open fractures: - o debridement + ABS. - o reduction - o RX → ext. skeletal fixation	• condylar plate 95°
• interlocking nail	→ Closed Fractures: ① New born → Credé's method ② Infants < 4 yrs: → Galeazzi's traction ③ Children 5-15 yrs: - Reduction - Reaction = 5 km traction - Thomas splint - Then hip spica ④ Adults → ORIF • oblique fem. Dist-RX • In. → interlock. nail • R. → - - -	• interlocking nail
• screw		• Bulge plate
		• Comminuted Fracture

⑥ IT of Complications

Pott's Fracture

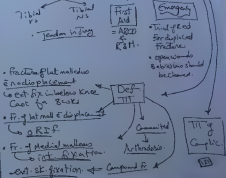


- Vertical Compression Fracture -

• Post Marginal Fracture	• Ant. Marginal Fracture	• Burst Fracture of the ankle
• Fall on plantar flexed foot	• Fall on dors. flexed foot	• Fall on plantigrade foot
• Fracture Post malleolus of Tibia & Ant. disloc. of the ankle.	• Fracture ant. margin of tibial artic. surface & Ant. disloc. of the ankle.	• Distasis of 1st Tibio-Tal Joint for Cent. disloc. of Talus & Comm. of Tibial Surface.

	Abduction fracture	Add. fracture
Trauma	• Fall on evated foot	• Fall on inverted foot
1st degree	• Tr. avulsion fr. of Medial malleolus	• Tr. avulsion fr. of lat. malleolus
2nd degree	1st + oblique shaw fr. of lat. malleolus + lat. disloc. of Talus.	1st + vertical fr. of Med malleolus + ant. disloc. of Talus.
3rd degree	2nd + Fracture of Post malleolus + post. lat. displacement of Talus.	2nd + Fracture of malleolus + post. Medial displacement of Talus.

	Int. Rotation Fr. (Crash)	Ext. Rot. Fr.
Trauma	• forcible int. Rot.	• forcible ext. Rot.
1st degree	• oblique shaw fr. of medial malleolus (Tri-malleolar)	• oblique shaw fr. of lat. malleolus (Tri-malleolar)
2nd degree	1st + rupture of deltoid lig. in avulsion fr. of Med malleolus + Med. displacement of Talus (Tri-malleolar)	1st + rupture of deltoid lig. in avulsion fr. of Med malleolus + lat. displ. of talus (Tri-malleolar)
3rd degree	2nd + Fr. post. malleolus + post. lat. displ. of Talus (Tri-malleolar)	2nd + Fr. post. malleolus + post. lat. displ. of talus (Tri-malleolar)



	Giant Cell Tumor "Osteoclastoma"	Osteosarcoma	Ewing's Sarcoma
- Age & Sex:	- 15-45 years. - $\frac{2}{3} > \frac{1}{3}$	- 10-25 yrs "teenage". - $\frac{1}{2} > \frac{1}{2}$	- 5-15 yrs "child". - $\frac{1}{2} > \frac{1}{2}$
- %:	5-9% of all bone tumors.	Most common 1 st malignant tumor in child.	2 nd Most common 1 st malignant bone tumor in child.
- Site:	- Epiphysis of long bones. - Around knee & away from elbow.	- Metaphysis of long bones. - Rule of 80.	- Diaphysis & metaphysis of long bones. - Flat bones.
- Cell of origin:	Unknown (thought to be osteoclasts)	Osteoblasts $\rightarrow$ osteogenic.	Round cell (BM reticulum).
- Macroscopic:	- Brownish soft & friable. - Area of age & necrosis. - Fibrous trabeculae & thin expanded cortex.	- Pure osteolytic 30% - "Osteoblastic" 50% - Mixture of both.	- Soft grayish brain like tissue. - Areas of age, necrosis.
- Microscopic:	- Multinucleated giant cells, stroma, R.Vs.	- Many osteoblasts, collagen, fibrous, giant cells.	- Round shaped app round cells. - Intercellular collagen, No matrix.
- Spread:	- Locally malign. (aggressive) - Starts eccentric & expands to bone around. - Affected bone cortex is like egg shell. - Tumor sep. from medulla by plug.	- Direct: Direct Central & respect epiphyses. - Plate: invades med. cavity. - Penetrates cortex. - Blood: EMB - 2 nd long metastasis. - Lymph: Rare & late.	- Direct - blood $\rightarrow$ EMBL - 1 st common. - Lymphatic.
- C/P:	- Pain (late) - Swelling. - Path Fracture (early)	- Anemia, Cachexia, Fever, Metastasis - - Pain (early) - Swelling. - Path Fr. (uncommon)	- Pain (early) - Swelling. - Path Fr. (uncommon).
- Signs:	- Bone swelling (labular, stretched skin) - Lump, egg shell crack - No L.N.	- Bone swelling (warm, tender, indurated) - Firm & soft areas - L.N. + late.	- Bone swelling (warm, tender, ill defined) - Eng. skin. - L.N. + (common).
- Inv. for:	(X-ray) - Soap bubble app. - Thin exp. cortex. - Medullary plug.	(X-ray) - 1 st - def. destr. lesion - New bone form - Soft tissue around bone	(X-ray) - onion peel app. - (osteolytic + periosteal New bone formation).
- III:	- imp. bone: Curettage + bone graft - excision & reconst. - Unimp bone: Excision + soft tissue - inaccessible, Radiotherapy.	- Operable - American & French: Above knee amput. - British: Irrad. (60s) - Free - Rad. amput. - 3 rd & 4 th = in-op. - in op. palliative.	- Combin. of: - Chemotherapy. - Irradiation. - Surgery - (excision & prost. replacement) - Amputation.

Bone Secondaries

- 50% of malign. Tumors of bones (most common).
- Age > 50 yrs.

Source

• 25% from breast & prostate.
• 1/3 → other cancers, lung, thyroid, kidney.
• 1/3 → occult LG.

• for LG Tumors:
- imaging: plain x-ray, US.
- FNAB
± Core cut biopsy.

Info

- Enzymes:
• Acid Phos. ↑ of prostate.
• ALP ↑ in bone metast.

- Radiology:
• Bone scan Tc 99
• P. x-ray

Route

• Syst. circ.
• Direct connection
• bet. pelvic cancer
pleura & vein.
• Direct invasion
• as Tumors grow from
pelvic cancer.

Pathology

Site

• red marrow
- thick bone
- red marrow

Mac. & Mic

- Grouped to that of LG.

CIP

SIS

• Gen. + LG Tumors
• SIS → 2ndary
• local → bone metast.
• Swelling

TTT

• For bone secondaries:
• Palliative
• Radial
• Chem. Analg.

Malig. Bone Tumors → Benign (most common)

1-2 Bone Tumors

Benign

- Ivory osteoma
- osteoid

Malignant

- osteosarcoma
- chondrosarcoma

Types

• Bone forming Tumors	• Chondroma	• Osteosarcoma
• Cartilage	• Chondroma	• Chondrosarcoma
• Fat	-	• Liposarcoma
• Fibrous Tumors	• Fibroma	• Fibrosarcoma
	• Fibrous dysplasia	
• VS Tumors	• Hemangioma	• Angiosarcoma
• Uncertain	• Giant Cell T.	• Malignant Giant Cell Tum.
• Marrow	-	• Ewing's Sarcoma
	-	• Myeloma

Benign Bone Tumors

Osteoma

Invasive osteoma

- rare
• Head & bones
• C skull & H mandible
• CIP acc. to site
• inner table of orbit
• no growth
• orbit - no protrusion
• And - no deafness
- x-ray
- TT
= excision.

Osteochondroma

- common
• adult.
• Met. g long bones
• long stalk + cap of cartilage
• single or multiple (ganglion)
• Presented & Comp. as path. fracture
- x-ray
- TT → style: excision
• Multiple - follow me.

Osteoid osteoma

- common
• 30 yrs.
• bone pain
• Arises from bone sclerosis
• painful small nodule in bone
• femur & tibia
- x-ray
- TT: excision, Saltykites

Chondroma

- Benign Tumors
• Chondrosarcoma
• Ewing's sarcoma
• Single or Multiple (collie's dis)
• CIP 1/3, 60% SIS
• En - 10%
• x-ray - CT - MRI
• anchored to cartilage except in skull bone of hand & foot in child
• TT → chiseling.

Foot Deformity

* Congenital Talipes equinovarus = club foot.

Talis = Talus = ankle
pes = foot.

I

- ~ 1:1000
- girls > boys.
- bilat > unilat.

Strab.

* Idiopathic (95%):

- ① Imbalance between Invertor plantar flexion & evertor dorsiflexion.
- ② Malinsection of tendons.
- ③ Prolonged malposition of fetus in utero.

Path.

Deformity

- plantar flexion of foot at ankle.
- inversion of foot.
- Add. of forefoot.
- Shortening of leg on medial side of foot.

II

= specific deformity at birth can't be corrected passively

- Inversion of foot = Subtalar Joint

- Add. of forefoot = Tarsal Joint

- Equinovarus (plantar flexion) = ankle joint.

Inv.

(X-ray)

- A.P. Talus-ankle angle ↓
- Lat. Tibia-ankle angle is obtuse.

III

(Congen.)

- Correct deformity (1st wk).
- Must correct by adhesive strapping.
- Denis brown splint at night.

(operative)
 1st wk → cast.
 2 wks → brace.
 3 wks → triple arthrodesis.

Developmental dysplasia of hip

* Def: hip instab. → head dislocated or shallow acetabula

① 7: 1:1000 - 2000

* Prob: - ♀ - Breed. - 1st child - prev FH.

- path: head: disloc. up & lat.
- neck: anteriorisation 90°
- acet: shallow & sloping.
- soft tissue: capsule stretched & ms shortened.

- * CIP: ① Neonates:
 - Limit of abd index.
 - Asym. gltd. crease (unilat) → unilat.
 - Special test (Ortolani, Barlow).

② Infant & child

③ Adolescents: discomfort, pain, exercise

④ Adult: Pain.

② Inv.

- Dis
- X-ray at heels

③ III

- up to 9ms: Reduction
- 9ms-5y: skin traction in abd for 2 wks then hip spica 2-6 m.
- 7-9y: pelvic osteotomy.
- 10-14y: Asym. gltd. crease Trendelenburg gait.
- Bilat: Broad pelvis, Waddling gait.

Perthes & O.

* Def: Avascular necrosis of capital femoral epiph. of femur in child.

① 7: ~ rate, 90% unilat.

- * Etiology: Unknown
- * Path: ① ischaemia, bone death.
- * CIP: ② Revs & repair.
- * CIP: ③ distention & remodeling.
- * CIP: ④ 1-2 yrs after hip disloc. → inactivity.

② Inv: X-ray of hip ✓ CT, MRI, bone scan

③ O.D.: Synovitis of hip T.B. Slipped upper fem. epiph.

- ④ III:
 - Con Serv.
 - Phy. sth. - Traction
 - Med. brace.
 - Surgery = Tenotomy.

⑤ Slipped upper fem. epiph.

- boy - femur head displaced down.
- head fixed by pins or screws

⑥ pos planes = flat foot

⑦ Pes Cavus

⑧ Hammer toe.

⑨ Hallux valgus.

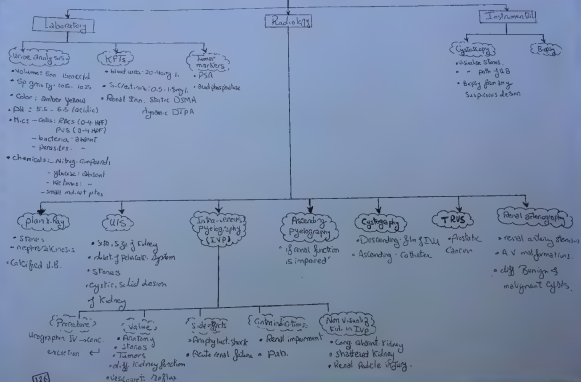
⑩ genu valgum varum.

⑪ Tibia Vara.

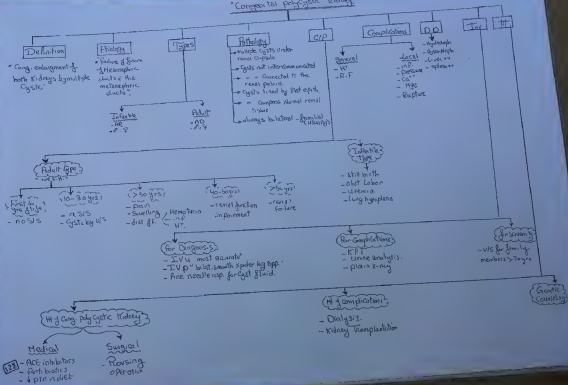
⑫ Flexion deformity

⑬ genu Recurvatum = Hyper extended knee

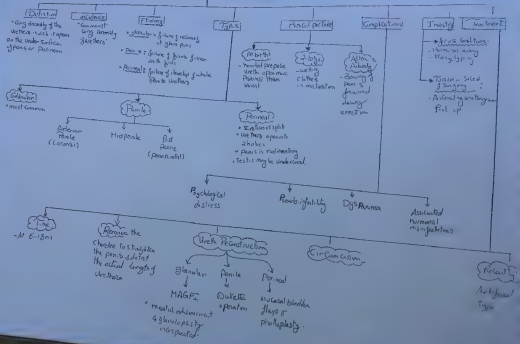
Investigations of Urinary System



Congenital polycystic kidney



HYPSPADIAS



Urinary Stones

Incidence:
 10-20% of population
 ↑ ↑ ↑
 Middle age
 common in Egypt

PD.F

Pathology

Factor	Calcium	Uric acid	Phosphorus	Urate
Surface	SP.KY	SP.KY	SP.KY	SP.KY
Consistency	Hard	Soft	Hard	Hard
Lg. Lg	1/2	2/3	2/3	1/2
Radiology	opaque	opaque	opaque	lucent

CIP

Comp

DD

Investg

HIMOM

- Hematuria**
 - total mass renal, ureters.
 - terminal mass bladder.
 - central mass ureters.
 - not visible → distal ureters.
- Infection**
 - pyelonephritis
 - cystitis
- Migrator**
- Obstruction**
- Malacoid**

- renal stones
- infection
- hydronephrosis
- renal cell c.
- Carcinoma of kidney

Metabolic errors

- Ca Stones**
 - hyperparathyroidism
 - Vitamin D intoxication
 - Sarcoidosis
 - Bone metastases
 - hypercalcaemia
- Uric acid**
 - gout
 - renal failure
- Cystine stones**
 - cystinuria

Infection

- Urinary tract
- change pH
- Nidus
- stone formation

Others

- Diet**
 - milk → Ca
 - meat → uric acid
 - eggs → cystine
 - liver → urate
- Hot climate**
- Radiation**
- Long residence**
 - congenital anomalies of urinary tract

for ID

For Cause

For Comp.

- Lab**
 - Urine
- radio**
 - P.A.M.
 - U/S
 - IVP
 - Ascending aorta
- instrumental**
 - Cystoscopy

- Ca
- P.A.M.
- Uric acid

- Urine
- IVP

Age of pt

- middle age

Symptoms

Ca

Pain

Comp

- Generalis**
 - infection
 - uremia

Signs

Local

- renal mass
- suprapubic tend.
- felt in bladder
- in female urethra

- Renal**
 - dull aching in flanks

- Ureteric**
 - agonising
 - loin to groin

- Bladder**
 - suprapubic pain
 - referred to tip of penis in males

- Urethral**
 - history of renal colic
 - sudden onset of urine

Treatment of Urinary stones

Acute Attack

- Analgesic
- Analgesics
- Antispasmodics
- Antibiotics

Conservative

- < 0.5 cm, 20% Comp
- ample fluids
- Antispasmodic
- Acidification of urine
- Antibiotics

Active

> 1 cm or 20% Comp

Renal

- 1-2 cm → E SWL
- Failure of → Percutaneous lithotripsy
- > 2 cm → Surgery

- Nephro-
lithotomy
"renal"
- Pyelo-
lithotomy
"pyelic"
- Distended
Pyelonephros
with
"Staghorn"

- Partial Nephrectomy
- Total "

Ureteric

- endoscope
- E SWL
- push down & E SWL
upper, middle third
- closure basket
"cinch" 5-6 cm from
ureter orifice
- morcellator → stone
extraction
"at ureter orifice"
- if failed
Ureterolithotomy

Bladder

- 1-2 cm → Cystoscope
if failed
Percutaneous suprapubic
lithotripsy
- > 2 cm → Suprapubic
cystolithotomy

Urethral

- Prostate
"push into bladder
take crushed by
lithotripsy"
- Denile
forceps extraction
by urethroscope

Definitive Tx

HT of Comp

- Hydronephrosis
- Pyelonephrosis
- Acute retention
of urine
- Calculus
stricture

Special Problems

- Recurrence:
- medical M
- M of Cause

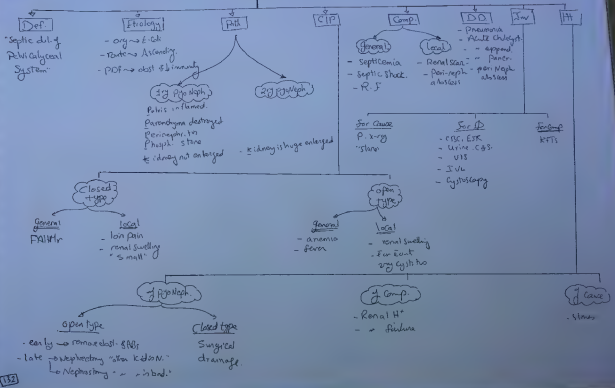
Bilateral stones

- Start on better kidney
except
→ percutaneous first
→ PCNL

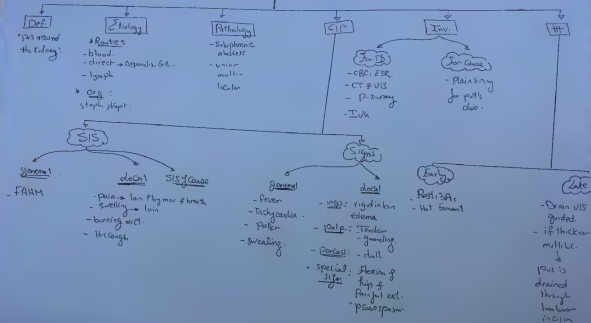
Multiple stones

- Start by
→ urethra
↓
ureter
↓
kidney
↓
bladder

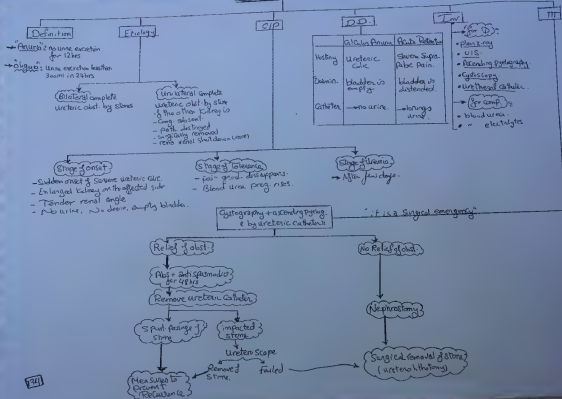
Pyelonephritis



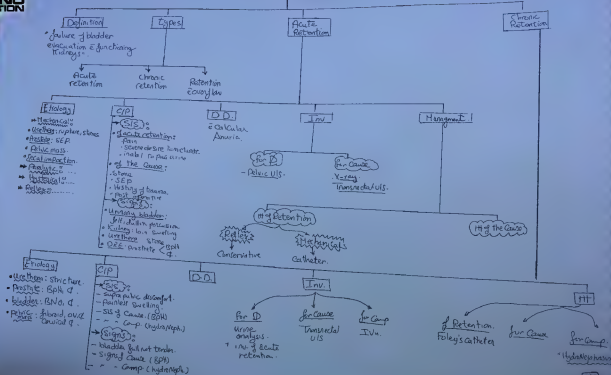
"Per Nephric abscess"



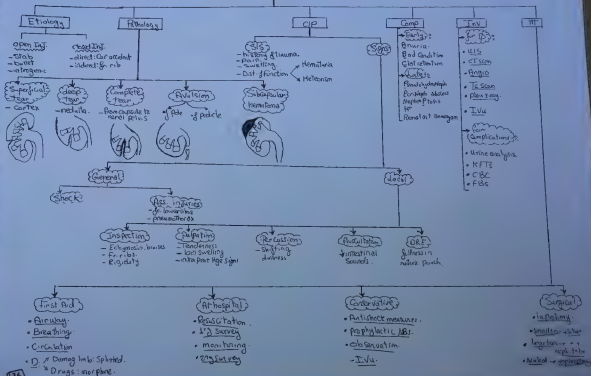
"Calculus Anuria"



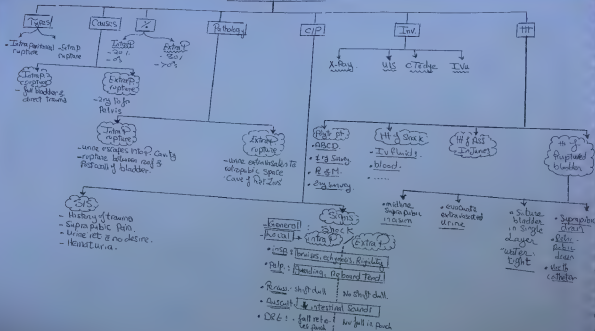
Retention of Urine



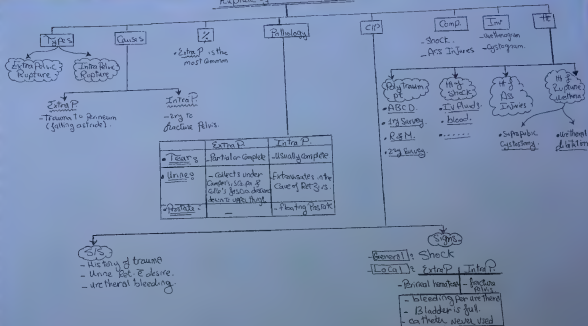
Renal injuries



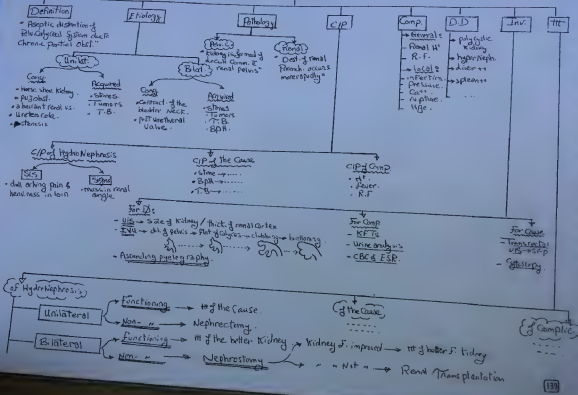
Injuries of the bladder



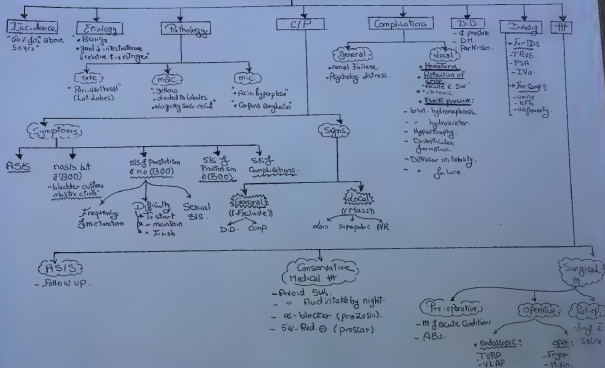
Rupture of the male Urethra



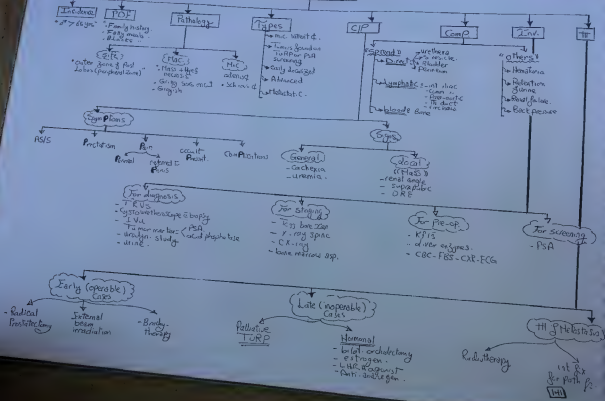
Hydro Nephrosis



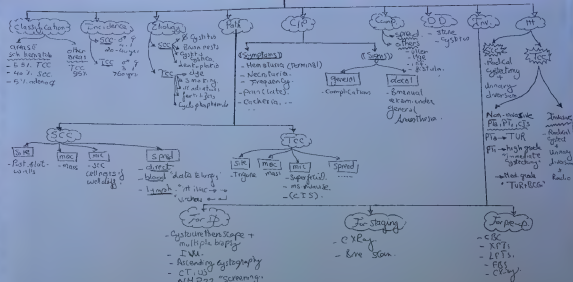
Bengkak Prostatik Hyperplasia (BPH)



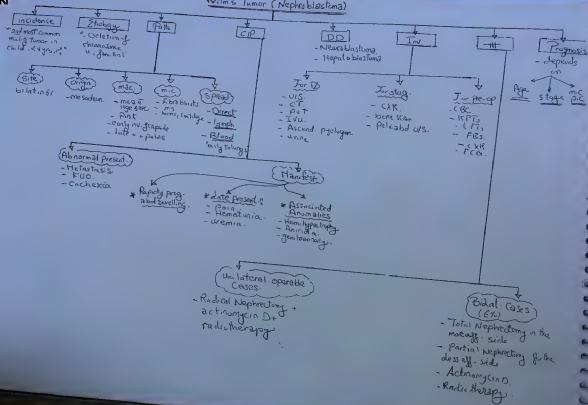
Coronoma of Prostate



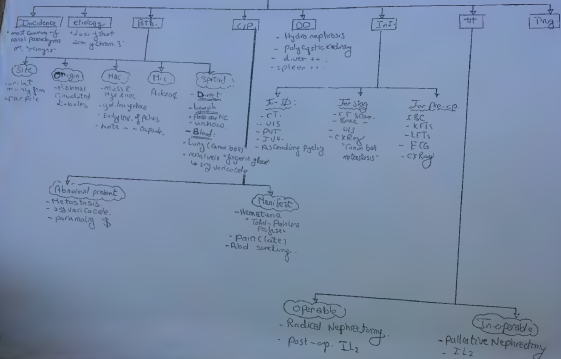
"Carcinoma of Urinary bladder"



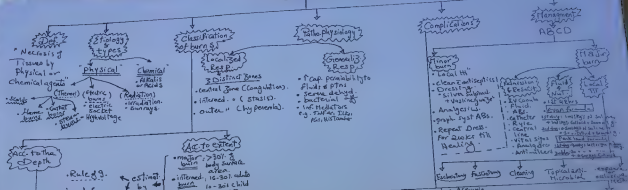
Wilm's Tumor (Nephroblastoma)



"Hyper-Nephroma 2" (Renal cell Carcinoma)



"Burn"



Acc. to the Depth

- Rule of 9s
- Lund & Browder charts

estimat. by

Acc. to extent

- major: >30% body surface area
- intermed: 10-30% adult, 10-30% child
- minor: <10% adult, <10% child

	1st Degree	2nd Degree	3rd Degree
Damage	• only the epidermis → eryth. & pain "Sun burn"	• Epidermis + part of dermis	• Complete destruction of epidermis & dermis
Healing	Heal rapidly	• Epidermal reg. Can occur from remnants of hair, sebaceous glands, sweat glands, infect. → 2nd degree	• No healing only Hg. of epith. • reg. of scar by 2nd wk. • skin graft
Appearance	• Forms blisters • Surface moist due to exud. of plasma	• Epidermal reg. Can occur from remnants of hair, sebaceous glands, sweat glands, infect. → 2nd degree	• White or black eschar • dry • Thick, b/c v.s.
Pain	• Painful	• Painful	• Painless • insens. endorgans

Systemic

Pulmonary

- Inhalation: immediate → Asphyxia
- Inhalation: Late → Bronchospasm, Atelectasis, Pneumonia
- Pulmonary embolism
- Pneumothorax

Shock

- Neurogenic: severe pain immediately
- Hypovolemic: fluid loss "lost" as in septic infection
- Septic infection

Renal

- oliguria
- Fluid & elect. imbalance
- Acute tubular necrosis → ARF
- Myoglobinuria, CK, IL-1 → MOD

CVS

- & C.O.P. 50%
- AHF - CHF
- Arrhythmias
- endomyocarditis, Anemia, 1st, 2nd, 3rd degree

Gut

- Stomach: acute gastritis, ulcer
- Small: Curling ulcer
- Large: ileus, acute ulcer

Infection

- UTIs - pneumonia - septic shock - Sepsis
- Endocarditis - 1st, 2nd, 3rd degree
- 1st, 2nd, 3rd degree

Endocrine

- 1st, 2nd, 3rd degree
- 1st, 2nd, 3rd degree

Multi-organ failure

- 1st, 2nd, 3rd degree
- 1st, 2nd, 3rd degree

Early

- infection
- Constricting eschar
- Suffocation
- Compartmental syndrome

Late

- Scarring
- raw skin areas
- pigmented skin changes
- Contractures
- Scar
- Malnutrition
- Hypertension

Skin grafts

Def. "Segmentation of skin including epidermis, variable thickness of dermis, fully sup. from its blood supply - donor area & then transplanted recipient area."

Indications

- Deep burn.
- To cover large granulating surface.
- Correction of distortion & deformity.
- Flexure.

Types

	Split thickness = <u>Thiersch graft</u>	Full thickness = <u>Walt graft</u>
Thickness	Epidermis + sup. part of dermis	Epidermis + Full thick. of dermis
Donor sites	Hidden areas e.g. thigh.	None clinically behind auricle
Recipient Area	Vascular area (Muscle gran. tissue)	Hyper-vascular area (Face).
Adv. & Disadv.	Adv. of split thick. - Good take. - donor site heals spont. - Only det. malignancy. Disadv. of split thick. - More liable to graft. - " " = pigment. - Weak Resist. Trauma. - poor Cosmesis.	Adv. of full thickness - Needs optimum cond. for its take. "Asepsis" - Scar at donor site. Disadv. of full thick. - Minimal Cost. - Resist. Trauma. - Sens. - Better Cosmesis
Indications	- Large gran. Surface. - Deep burn. - Malign. Tumor resection.	- Surgically clean Area (Face). - perianal Aspect of hand & clitoris. - But.

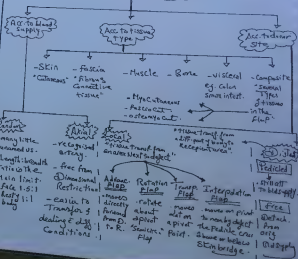
Skin flaps

Def. "Tissue Transferred from one site of body to another area retaining attachment to its original site for its blood supply for nourishment"

Indications

- wound & poor vascular bed → Bone, Cartilage, Tendons.
- In wet burning area e.g. Sole.
- Reconst. of facial Features.

Categories of Flap Classification



Pigmented skin lesions

Malignant Melanoma

Benign Melanoma (Naevus)

Def

- True neoplasm arising from melanocytes.
- Small: 1-5 mm diameter.
- Thick: 1-5 to 2 cm.
- Large: > 2 cm.

Incidence

- Most common tumor in humans.
- 2.5% of child have pig. skin lesions.

Types

Treatment

- **No tx**

- Hist. & dx.

- **Indications for surgical excision**

- Cosmetic reactions.
- Suspected to be malignant transformation.
- Giant hairy naevus.
- Should be excised as soon as possible.

Lentigo

- Melanocytes replace basal layer of epidermis.
- Round dots & brown.
- Flat black spot.

junctional pig. naevus

- Continuation of epidermis bulge down into dermis.
- Flat black spot.

Compound Naevus

- BH is disrupted & some melanocytes pass to dermis.
- MCs in epidermis pig.
- black nodule raised above surf. skin a hair (giant hairy naevus).

Intradermal

- Melanocytes are present mainly in dermis & BH is absent.
- approx 1 cm.

PDA

- prolonged exposure to sunlight.
- 1:10000.
- on top of benign melanoma or other melanocytic.
- Albinism, retinitis pig.
- Rare.

Incidence

- adult & old.
- 1:10000.

Path. & Clinical types

- radial
- direct
- radial
- direct
- radial
- direct

Spread

- local
- distant
- local
- distant

Classification

- radial
- direct
- radial
- direct

CIP

- radial
- direct
- radial
- direct

SL

- radial
- direct
- radial
- direct

Signs

- radial
- direct
- radial
- direct

Types

- radial
- direct
- radial
- direct

Proposed

- radial
- direct
- radial
- direct

Superficial Melanoma

- most common
- middle age
- on trunk & limbs
- raised above surface
- surface 2-3 mm
- irreg. edge
- good prog.

nodular Melanoma

- any age
- trunk, head, neck
- raised above surface
- surface 2-3 mm
- surface 2-3 mm
- irreg. edge
- bad prog.

Acral lentiginous Melanoma

- 70-80%
- palm-sole & under nail
- very similar to other type
- very poor prog.

Subungual

- arise in eyes, mucous or mucosal
- junctional melanocytic
- DOPA test
- biopsy
- poor prog.

Amelanotic Melanoma

- arise in eyes, mucous or mucosal
- junctional melanocytic
- DOPA test
- biopsy
- poor prog.

lentigo Maligna

- old age
- face
- Hutchinson's freckles

Malignant transformation of Benign

- histology
- histology
- histology
- histology

Characteristics

- histology
- histology
- histology
- histology

Signs

- histology
- histology
- histology
- histology

Types

- histology
- histology
- histology
- histology

Proposed

- histology
- histology
- histology
- histology

In-ops

- histology
- histology
- histology
- histology

	"Basal Cell Carcinoma"	"Squamous Cell Carcinoma"
- Definition:	- Locally malignant Tumor arise from basal layer of skin.	- Malignant Tumor arise from skin Squamous epithelium.
- Incidence:	- Sex: male > female. - Age: > 40 yrs.	- Fair skinned ppl, farmers, sailors, ...
- P.D.B:	- Exposure to Sun rays, ultra violet rays (Most imp.) - Actinic & Xeroderma pigmentosa (AR) - Pre-malignant Lesions: - Actinic Keratosis. - Bowen's Dis. - Dysplasia of Epithel. - Leukoplakia.	- Ionizing Radiation. - pps receiving immuno suppressants.
- Pathology:	- 90% in face. - Area above & below labiale of the ear (angles of mouth, lower canthus of eye & Naso-labial fold).	- long standing init. of the skin as in chronic ulcers, old burns, sinuses. - "A carcinoma on top of Scar" or Marjolin ulcer. - a delay in its development usually occurs. - prolng. exp. of the skin to carcinog. agents as Coal Tar & Derivatives.
- Site:	- Common Types: - Nodular form - dilated capillary. - Ulcer form - Rodent Ulcer. - Shape: Round, oval, ... - No: single, multiple - edges raised, broad. - Base: indistinct, well defined, ...	- Any site covered by sq. epith. - on top of sq. metaplasia.
- Macroscopic:	- Uncommon Types: - Pigmented type. - Sclerosing B.C.C. - Cystic. - Infiltrative.	- Differentiated SCC - cell nests (prickle cells + keratin). - un - masses of malignant cells. - "Anaplastic cells" - basophilic cytoplasm. - & cell nests carry better prog. if present.
- Mic:	- Rounded solid masses of cells (epithelial) - fibrous stroma. - only direct locally malignant. - > 40 years, Fair Coloured people, farmers, sailors (slowly growing)	- ulcer - shape: Round, oval, ... - No: single, multiple - edges: everted. - Base: ind. early mobile, late fixed. - LNs: early 0 & soft.
- Spread:	- No L.N. except if infected (firm Tender Nodule or Malignant Transformation)	- Direct > Lymphatic > blood Spread. - ulcer Resist. for thr
- C/P:	- T.J.R & Pt: - Nodule - Ulcer - An N.	- (Rapidly growing) - Malignant Transformation -> Chancres - Keratoacanthoma - B.C.C.
- Complications:	- Hairs, Transf. -> Infection - epidermal sinus Transf. -> Infection - Chalk's peculiar Tumor - S.C.C.	-> Septic granuloma -> Metastasis
- D.O:	- Moh's Micrographic surgery - Surgical - softest margin 1cm, elliptical, - graft - Irradiation: by iridium. - Debit-pts -> bone, Cartilage. - Prog. -> Good	-> Late fixed.
- Inv. & III:	- Topog. - Vary - C.T. - Sentinel LN study	-> depend on age, diff. & LNs -> Metastasis.

{Cleft Lip & Cleft Palate

Incidence

* face develops from 5 pairs of vesicles

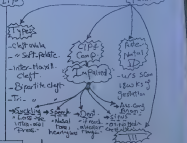
- Frost - - -
- 2 May. - - -
- 2 June. - - -



541094

- genetic predisposition

- 5-14: in 1st degree relative risk 2.5 fold with 1st cleft lip palate
- Environmental factors:
 - Drugs: steroids, drugs, preglin.
 - Terat.
 - Viral infections (rubella)
- Φ: e.g. Pierre Robin & cleft palate + retrognathia & glossoptosis

$$\left\{ \begin{array}{l} \text{Cleft} \\ \text{Palate} \end{array} \right\}$$


Def. 2

' failure of fusion between
The median part of free Notoch
Process & one or both lat. Max
Processes in developing foal.

514813

- 2 Maxillary

 - Cheeks
 - outer part of upper lip
 - front part of palate
 - remain part of upper alveolus

2 Mandibular

 - part of Cheek
 - lower Mandible
 - lower lip
 - Mandible

- Flaring & Flattening of Nares on the affected side.
- Disfigurement.
- Difficult Suckling
- Nasal tone.
- Short lip-nose dist.
- As. Cong. Anomalies in 35% of cases

[illegible]

- U/S Scan after 18 weeks of gestation
- ↓
- Reassure the pt.

Millard

- ① Time: 6wks - 6ms.
- ② Pre-Req: infant language
wt, logpr. Ab.
- ③ Aim: improve app. & N
Funct. Loss.
- ④ Principles: - pairing
- sub-wt
- skin
- muscle

- Time: 12 - 18 ms.
- Pre-op: - 8 mm lead in upright post.
- Preceded by 8th chest inf.
- Aim: - Closure for a normal Conus +
- Achieve retroph. sphincter
- Principle - 1 pair edges.
 - Lat. Relax positions.
 - Pt. of myoapical banding.
 - Suture 3 layers

- Upper Lf:
(Lat)
- Lower Lf:
(Median) ✓

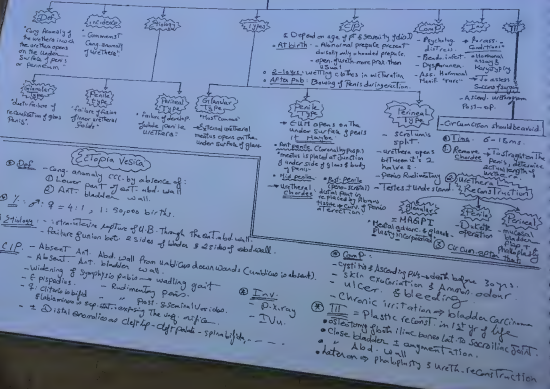
- Unitat: 85'
bilat: 157.

Complete

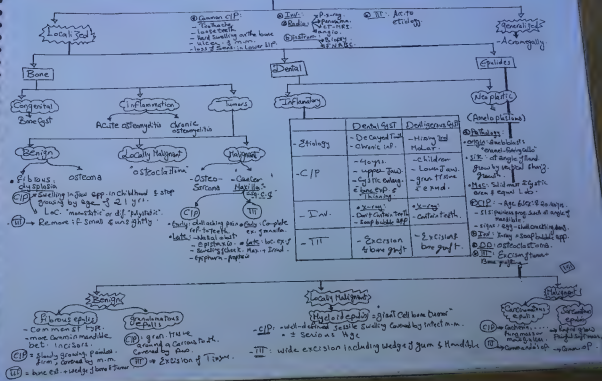
- Complete: cleft extend up to nostril
- in Complete: cleft doesn't cut to nostril.

- Comp :
Eclipt
palate ✓
"innest"
→ Un Comp :
Eout
cleft palate.

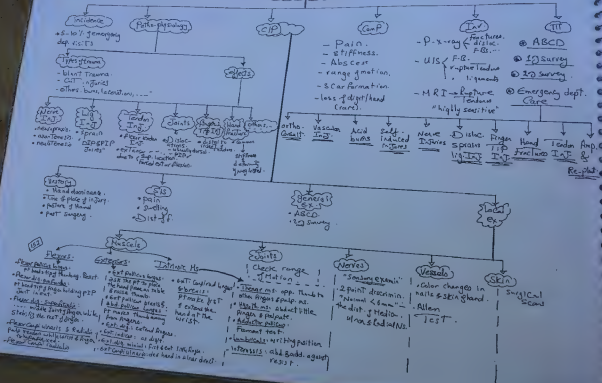
HYPSPADIAS



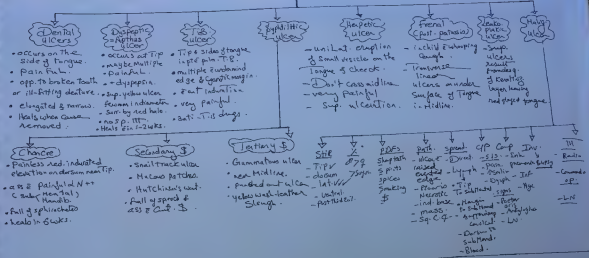
Swellings of Jaws



Hand Injuries

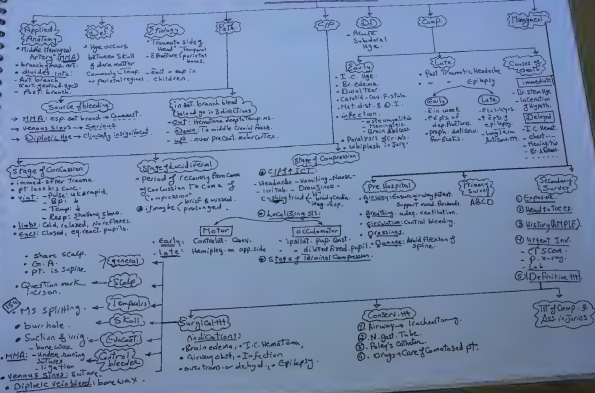


ulcers of The tongue



etiology		History		ulcers of lip		Differential		Prognosis				
• G. Sore	burns - dermatitis	• Age: old	Sex: M	• onset insidious	Course: progressive	• Pain	Swelling	• D. of onset	D. of onset			
• Chancres - Ulcer plaques		• Occur - ulcers		• sexual history		• Diet - Malt		• P.H.		• Genex - syst dia	• Local - ulcer	
• T.B. Aphthous		• 2N -		• Past hist - leukemia		• Medications - steroids		• Diet - Malt		• P.H.	• Genex - syst dia	• Local - ulcer
• Contact dermatitis		• S.E.		• CBC		• ESR		• HIV body		• Swabs biopsy	• T.H. g	• Cause
• Leukoplakia - Behcet's		• Camp.		• T.H. g		• Cause		• 1 yr		• 1 yr	• 1 yr	• 1 yr
• E. Histiocytic - impetigo		• Camp.		• T.H. g		• Cause		• 1 yr		• 1 yr	• 1 yr	• 1 yr
• Candida. Zeb		• Camp.		• T.H. g		• Cause		• 1 yr		• 1 yr	• 1 yr	• 1 yr
• Camp.		• T.H. g		• Cause		• 1 yr		• 1 yr		• 1 yr	• 1 yr	• 1 yr
• T.H. g		• Cause		• 1 yr		• 1 yr		• 1 yr		• 1 yr	• 1 yr	• 1 yr
• Cause		• 1 yr		• 1 yr		• 1 yr		• 1 yr		• 1 yr	• 1 yr	• 1 yr
• 1 yr		• 1 yr		• 1 yr		• 1 yr		• 1 yr		• 1 yr	• 1 yr	• 1 yr

Extradural Hemorrhage



"Intracranial Injuries"

Mech. of Injury
(Type of Trauma)
closed
penetrating

Primary Path. Sequelae

Secondary Path. Sequelae

Brain Contusion

- Mech.**
 - Transient neurophysiologic structural changes followed by complete recovery.
- CIP**
 - physiologic
 - also called HGE
 - complete recovery
 - pathologic & irreversible
- Inv.**
 - complete recovery
 - pathologic & irreversible
- Def.**
 - Areas of bruising & HGCs on the VCT
 - Areas of bruising & HGCs on the VCT
 - Pathologic changes
 - Pathologic changes
 - Pathologic changes
 - Pathologic changes

Brain Contusions & Lacerations

Brain edema
As Brain Compression

Intra-cranial Hge

VS changed
The ICP dist. cerebral blood flow results in:
• tachycardia
• bradycardia

Cushing's
The ICP

Brain Stem Injury

Infection

Extradural Hge

Subdural Hge

Subarachnoid Hge

Acute Subdural Hematoma

Chronic Subdural Hematoma

Epidural Hematoma

Brain Compression

Path.
• Rupture of arterial vein
• bilobed shape
• Perit. loss of HGC
• no lucid interval
• severe brain damage & laceration

CIP
• As extra-dural Hge
• C.T. "crescentic"

Inv.
• As extra-dural Hge
• C.T. "crescentic"

Subarachnoid Hge
• more common than subdural
• present is delayed 6-10 days

Chronic Subdural Hematoma
• bilobed shape
• Perit. loss of HGC
• no lucid interval
• severe brain damage & laceration

Epidural Hematoma
• bilobed shape
• Perit. loss of HGC
• no lucid interval
• severe brain damage & laceration

Brain Compression
• bilobed shape
• Perit. loss of HGC
• no lucid interval
• severe brain damage & laceration

Path.
• piece of bone is forced into the brain tissue

Comp.
• Meningitis

Inv.
• As extra-dural Hge
• C.T. "crescentic"

Subarachnoid Hge
• more common than subdural
• present is delayed 6-10 days

Chronic Subdural Hematoma
• bilobed shape
• Perit. loss of HGC
• no lucid interval
• severe brain damage & laceration

Epidural Hematoma
• bilobed shape
• Perit. loss of HGC
• no lucid interval
• severe brain damage & laceration

Brain Compression
• bilobed shape
• Perit. loss of HGC
• no lucid interval
• severe brain damage & laceration

Path.
• piece of bone is forced into the brain tissue

Comp.
• Meningitis

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• C.T. "crescentic"

Subarachnoid Hge
• more common than subdural
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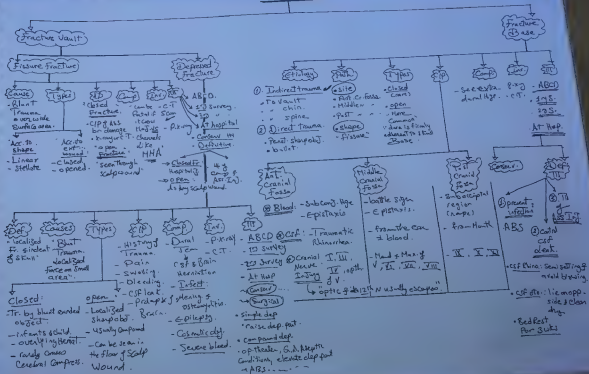
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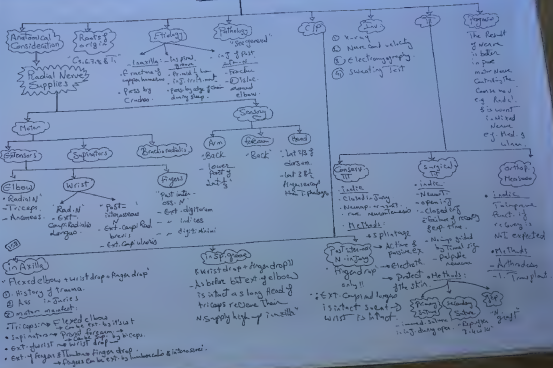
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'Skull injuries'



Radial Nerve Injuries



In Axilla

Flexed elbow + wrist drop + finger drop

- 1) History of trauma.
- 2) Loss of function
- 3) Motor wastage

- Triceps: no flexed elbow
- Supinators: no wrist drop
- Ext. carpi ulnaris: no wrist drop
- Ext. of finger & thumb: finger drop
- Ext. of finger & thumb: finger drop

In Sp. 1st

Wrist drop + finger drop
As before but ext. of elbow
is intact as long head of triceps relieve them
N supply high up in axilla

Post inter-nerve injury

Finger drop only!!

1st Ext. Carpal longus is intact & ext. wrist is intact

Post inter-nerve injury

Finger drop only!!

1st Ext. Carpal longus is intact & ext. wrist is intact

Post inter-nerve injury

Finger drop only!!

1st Ext. Carpal longus is intact & ext. wrist is intact

Median & Ulnar Nerve Injuries Anatomical Considerations

Median Nerve Supplies

Ulnar Nerve Supplies

Motor Forearm

- All muscles of the Forearm except:
 - Flexor Carpi ulnaris.
 - Med 1/2 of Flex. dig. Prof. & Superf.

Hand Finger

- 2 lat. lumbricals.
- 3 ms. of Thenar eminence:
 - Flexor pollicis brevis
 - Abductor
 - Opponens

Sensory

- Palm "Lat 1/2"
- Fingers "Lat 3/4"
- (Palmar surface)
- (Dorsal surface)
- (Phalange)

Motor Forearm

- Flexor Carpi ulnaris
- Med 1/2 of Flexor dig. profundus

Motor Hand

- All of hand except:
 - 2 lat. lumbricals.
 - 3 ms. of Thenar.

Sensory

- Palm & Med 1/2 of Fingers
- Med 1/4 of Fingers
- (Palmar dorsal surface)

Median Nerve injury		Ulnar Nerve injury	
• Roots	C5, 6, 7 & 8 & T1	• Roots	C7 & 8 & T1
• Etiology	- Cut Wound.	• Etiology	- Cut Wound
① Injury of the wrist	- Gale's fracture.	① Injury of the wrist	- Fr. lower end of ulna.
② Injury in the forearm	- Carpal Tunnel's S.	② Injury in the forearm	- Fr. & disloc. around elbow - by Tourniquet.
③ Pathology	- Fr. & disloc. around the elbow.	③ Pathology	- Fr. & disloc. around elbow - Fr. Med. epicondyle of humerus - Delayed ulnar neuritis "Clawing of hand"

See General

① Injury of the wrist

② Injury of the forearm

③ Pathology

④ Signs

⑤ History of Trauma

⑥ Pain

⑦ Swelling

⑧ Deformity

⑨ Loss of Sens.

⑩ Clawing of hand

⑪ Constriction

① Injury of the wrist

② Injury of the forearm

③ Pathology

④ Signs

⑤ History of Trauma

⑥ Pain

⑦ Swelling

⑧ Deformity

⑨ Loss of Sens.

⑩ Clawing of hand

① Injury of the wrist

② Injury of the forearm

③ Pathology

④ Signs

⑤ History of Trauma

⑥ Pain

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⑩ Clawing of hand

① Injury of the wrist

② Injury of the forearm

③ Pathology

④ Signs

⑤ History of Trauma

⑥ Pain

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① Injury of the wrist

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③ Pathology

④ Signs

⑤ History of Trauma

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③ Pathology

④ Signs

⑤ History of Trauma

⑥ Pain

⑦ Swelling

⑧ Deformity

⑨ Loss of Sens.

⑩ Clawing of hand

Sciatic N. injury

- ① Etiology: - Penetrating wounds of gluteal region.
- Post hip Dislocation.
- Fracture Pelvis.
- IM Injection.

② CIP

- ① Motor: - Paralysis of Hamstrings & pop. flex knee
- all legs → pop. foot
- int. ms. of thigh closing toes.
② Sensory: Anesthesia below knee except on the Medial side of leg. Ant. & big toe → Supply Saphenous N.
③ Autonomic: - -
④ Pulp. sensation: - -
⑤ Tinel's sign: - -

- ⑥ Inv.: - - - - - ② III Asger but: wears suitable support to avoid drop foot. Massage & electrotherapy.

Brachial Plexus Injury

- ① Etiology: - open... - Traumatism (hyperdist. - Post. & frg. clavicle
- Birth Inj. - 1st shld. of shoulder.)

② CIP

- ① Complete brachial plexus inj.
- Motor changed: arms full except T4. Med. side of arm T4.
- Sens: - An. of whole arm. - Skin over deltoid. C4
② Upper trunk Inj. = Erb's palsy.
- Motor: Police man's tip deformity.
- Sens: An. over deltoid.
③ Lower trunk Inj. = C5-T1 Klumpke's palsy.
- Motor: Complete claw hand.
- Sens: An. Med. aspect of forearm & Med 3 1/2 fingers.
- Horner's 3. - -

- ⑥ Inv & III → See general.

Popliteal N. injury

Med. pop. N. injury

① Etiology

- Injury is common in its most Sus. part: Neck of fibula.
- Injury is usually due to fracture neck of fibula.
- Deep wounds of the thigh.
- S.C. transection of ligament.
- Press. by strapping bandages, splints & plaster.

② CIP

- ① Motor: - Paralysis of plantar flexors → foot drop (early)
- clawing of foot → inversion
- paralytic talipes equinovarus state.
② Sensory: - Anesthesia over the lat. part of the dors. foot & part of the lat. side of leg.
③ Autonomic: - - - - -
④ Pulp. sensation: - - - - -
⑤ Tinel's sign: - - - - -

- ⑥ Inv.: - - - - -
⑦ III: - - - - -

Median Pop. N. Injury

① Motor

- Paralysis of plantar flexors.
- Dorsiflex. & calcaneus Volvuli.
- Paralysis of adductors.
- Clawing of toes.

② Sens

- Anesthesia of sole.

Axillary N. Injury

- ① Etiology: - Gun shot.
- Fr. of hum. N. humerus.
- Dislocation of shoulder.
- Crutch palsy.
② CIP: - Motor: Paralysis of deltoid.
- Ant. shoulder.
- Sens: over part of delt. joint.

- Sens: over part of delt. joint.

Trophic changes: - - - - -

- ⑥ Inv } see general

⑦ III

Carpal Tunnel S.

- ① Def.: Compression of N. in Carpal Tunnel.
The F. Retinaculum.

② Causes

- Idiopathic.
- R.A., myxedema, pregnancy.

③ Types

- Acute - chronic.

④ CIP

- ① Motor: - (late): Weak, parasthesia & numbness.
② Sens: - (late): Pain in hand.
③ Inv: - (late): Weak, parasthesia & numbness.

- ④ III: - An. Median N. inj. at wrist except sens. loss at palm.

- ⑤ Inv: NCV is impaired

- ⑥ III: Division of F. Retinaculum.

Skull Tumors

Benign

- Rare.
- Meningioma.
- in Region of frontal sinus.

Malignant



Tumors of The Scalp

Benign

- Lipoma.
- Papilloma.
- Pleomorphic xanthoma.
- Hemangioma.
- Cystic dermoid.

Locally Malignant

- Basal cell carcinoma.

Malignant

- Epithelioma.
- Melanoma.
- Fibrosarcoma.
- Sebaceous.
- Metastasis.

Brain Tumors

Def

Intracranial Mass
Created by abnormal cell division.
"includes all neoplasms arising from Brain, Meninges, Pit, brain, CNS & Metastatic Tumors"

Etiology

- adults: 1:4000
- child: 1:1000
- More than 50% of Brain Tumors are Secondary.

Classification

- (unknown)
- Risk factors:
 - ① Radiation
 - ② Li-Fraumeni
 - ③ Tumor 3
 - ④ Neurofibromatosis
 - ⑤ H. Infection

Path

dest of Brain Cells directly & indirectly by "Prone to infection" & "ICP"

Classification

ICP

"May be = SIS"

Inv.

TV

Tumors

Glial Tumor

- Astrocytoma
- oligo, dendrocytoma
- Glioblastoma multiforme
- Ependymoma

Meningeal

- Meningioma

NS

- Neurofibroma

Bldrs

- Hemangioblastoma

Embryonic

- Medulloblastoma

Pit

- Pit Adenoma

Maldev

- Craniopharyngioma

From Rhinocoe

- Pouch

From choroid

- choroid

From breast

- breast

↑ ICP

- Headache
- Vomiting
- Papilloedema
- Blurring of vision

- False localizing signs

- ③ → ventricles dilate 8
- lateral → M. Subfornix
- 3rd → biting of hemispheric
- 4th → ventricles, 1st, 2nd, 3rd
- ① → C.N. III, IV
- ② → Alternations of

True localizing signs

④ Cerebral Hemisphere

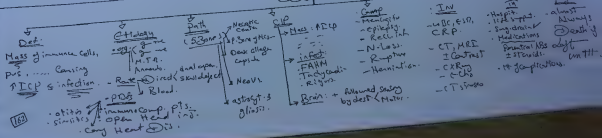
- Frontal
- Parietal
- Temporal
- Occipital

⑤ Cerebellar Posterior angle Tumors

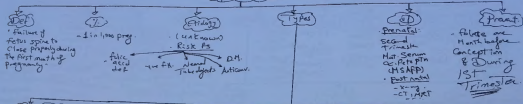
- ipsilateral cerebellar
- 3rd, 4th, 5th N.
- cerebellar hemisphere

⑥ Pit Tumors

- Hormonal SIS
- Neurology
- ↑ ICP



Spina bifida



Spina bilda
occulta

- C/P: - most cases: eggs till puberty.
- minor = 1 urinary tract. at puberty.
- II: - Not Req. 2 in Neuro. affs C/Traction based

Constitutional policy

- Def: Non-Benign
 - prog. UMNL + epilepsy
 - curable MR
 - fatal delayed milestones

- Pre Natal: Tumor, APUG, RH
- Natal: Abnormal, Fetal Smile
- Post: Trauma - Meningitis

- Types Spasms ✓ - Arteroid - Atonic - Atonic, Mixed

- CIP: Delayed Miletos + Adv. cranial. MS affection. aplasia (Mun.)

- physioth.
- speech
- special ed.
- ortho
- 12th

Henry, Cole

- alter: - Lumbar Sacral region
- Back of Neck.
- CIP: -

- Swelling: - Back of Neck
- Cystic

- 4th: argest in CPA bank

Planning, Nigeria cake

- pretend roots
 - Conds are functionless
- dil. bladder, Pylorus ans
- HydroCoel = Amoebic inf.
- Acute burking
- Repair urgently $\pm$ 24 hrs
- Clonus + Pepsic. - normal tissue

Nyelatete

- no persistent w. tube.
- inc. p. & life.

Springo-

- Central canal is dilated

Cavernous Sinus Thrombosis

- Def: inf + Thrombosis of Cavernous Sinus
etiology: org. present

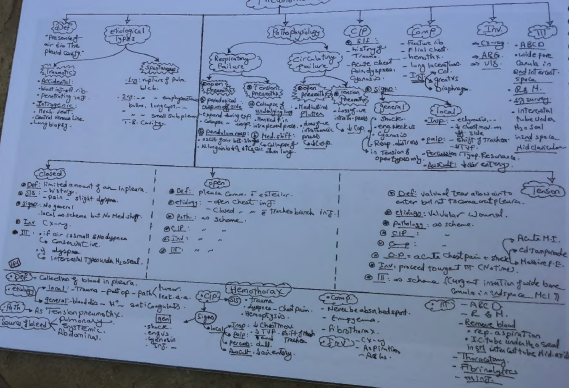
- etiology: drug, pyogenic -
Bacteria: P.

- C/P - FAHM = Endog. inf (rare)

- Same supraorbital pain - Edema behind the ear -

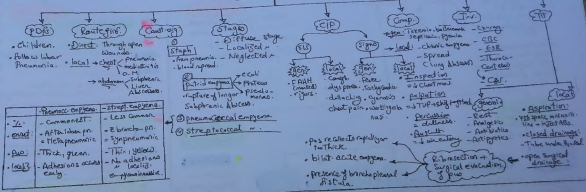
- IV: ICV + Ret + Sub. arach. - P.E. - infection

- IV: ICV + Ret + Syt. Abs + AntiCoag + General protection + TTT & Complications. —



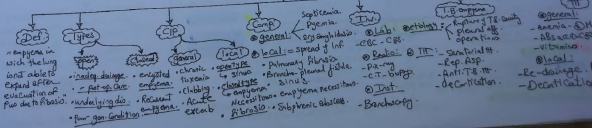
Empyema
= Accumulation of Pus in the pleural cavity.
→ Acute < Non-specific → Chronic < Hb specific > specific.

Acute empyema



Pneumococcal empyema	Streptococcal empyema
- Commonest. - Affects lobar pneumonia. - Thick, green. - Adhesions occur early.	- Less common. 2 broncho-pn. - Synpneumonic. - Thin, yellow. - No adhesions or localizing. - Pyopneumothorax.

Chronic empyema



Cardiac arrest & Cardio-pulmonary Resuscitation (CPR)

